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EDITORIAL COMMENT

General spring poultry flock management is entirely dependent upon the market outlook for product sales during the spring and early summer months. Flock reduction is essential, but only to the extent of removing nonprofitable adult laying stock, providing the market prospects for eggs are satisfactory. The number of chicks hatched, the length of the hatching season, and the number of young stock to be reared for layers as well as meat stock are only determined by anticipating or forecasting fall season demands for both eggs and meat. During the early part of the hatching season the outlook for chick orders was good, the demand for mid-season chicks appears to be holding fairly well, but the late season orders are still questionable.

A more reassuring trade condition is at present developing; eggs are commencing to move into export (53,769 cases having been shipped up to the end of March, as compared to 30,480 cases for the same period in 1940), egg prices show a tendency to advance, although under the 1940 price level, and, finally, eggs are beginning to move into storage. The meat demand has held firm throughout the year, the present prices for storage stocks running three to three and one-half cents per pound over 1940 prices. The export of live poultry to the United States in 1940 was good, but at present that market is not offering satisfactory prices to warrant any immediate movement of stock. The general outlook at present, however, is much brighter than was anticipated a month ago. Good laying stock should not be sacrificed and a normal crop of young stock should be carried throughout the growing season.

Straws in the Wind

From all sections of Eastern Canada comes evidence of how enthusiastically the rural people have entered into the spirit of the Farm Radio programme. Even when snow and weather have prevented organized groups from functioning, we hear of small informal groups actively discussing the questions raised by the Sunnyside broadcasts. Even from far beyond our borders comes word of the interest that has been aroused among rural people. Tangible evidence of this interest in the neighboring republic was received during one of our broadcasts when an American listener — a business man — called up to say that in appreciation of the programme he was sending in a generous cheque to help out the good work in Quebec, in which province he had become interested as a summer visitor.

The fact that this programme filled a real need in giving an outlet to the interests and energies of our rural communities, is emphasized in the following letter from an active friend, Mr. George Michaud, Agronomist, Hull, Quebec, who writes:

"As a direct result of the "climate" created through the four radio groups, there was born this week a fifth radio group and the "Poltimore Young People's Club."

"What is particularly interesting in this group is the spirit of co-operation already shown. Those young 'Canadians' are from English, French, German, Scotch, Polish and Irish descent. They know and like each other well and are anxious to serve for the welfare of the community here, and abroad. Some of their brothers are already overseas."

At a time when there is a tendency to be bewildered with the rapidly changing course of events and when guidance and direction are essential, it is apparent that this programme has filled a useful place in turning the energies of our young people into fruitful and constructive channels. Its ultimate usefulness will depend upon the "follow-up", the extent to which this new method is developed and the use that is made of it by those privileged to take part.

Grass Roots and Far Horizons

by Paul H. Johnstone*

MY GRANDFATHER was a farmer in southern Iowa. My grandparents were old-fashioned folk who lived as much as they could within the pattern of the customs and ideals that had prevailed when they were young. Their farm had 160 acres of rich, rolling land. Thirty or forty acres were heavily timbered. The rest was in pasture or under cultivation. There were at least a few specimens of every common farm animal and fowl.

Near a big orchard, with several varieties of apple, cherry, and plum trees, was a patch of currant and gooseberry bushes, with strawberries and raspberries. A big garden, carefully tended, produced almost every vegetable you can name offhand.

Not far from the kitchen door, Grandmother kept a small herb garden where mysterious plants flourished that, wisely administered, could cure everything from chilblains to rheumatic fever.

The fields were broken up, although I don't believe Grandfather ever used the word "diversification." The pasture was large, with a good-sized meadow of wild hay, but the land under the plow was cut up into a dozen or more plots. The cornfield, the biggest, never exceeded 15 or 20 acres. A few acres were planted to potatoes, oats, wheat, barley, clover, beans, peas, one of another root crop, perhaps some flax or buckwheat, and squashes. Pumpkins were always planted with the corn.

The barnyard included a little smithy where Grandfather shod his own horses.

The smokehouse hung thick with hams and shoulders, and sides of pork. Nearby, turned over to keep the rain out, was the big iron kettle used to make soap. And a row of beehives under the trees in the orchard supplied sweets for the family.

When they wanted meat they killed a chicken, got ham from the smokehouse, or dug for sausages sealed in lard in big jars in the basement. Vegetables came from the garden, or, out of season, from the root cellar or from bins of sand. And there were barrels of apples and long shelves lined with home preserves.

Fuel came from the big wood pile, at the cost of cutting and hauling in from the grove south of the barnyard. Grandfather used to make his singletrees and double-trees from hickory that grew there.

Kerosene for the lamps had to be bought, of course, and paint now and then for the buildings. Occasionally some implement broke, or wore out so completely that there was nothing to do but buy a new one. A two-bottom gang plow and a binder were the heaviest and most expensive machines on the place.

Amusements and social life were inexpensive, centered around the little church and the one-room school that

stood facing each other across the road a couple of miles away.

There was plenty of fun. But seldom was there any that cost money, although the women frequently had lots of cooking to do.

The Successor Fails

Grandfather's farm was operated as a place on which a humble family could make a modest but secure living. It was a good farm. I suspect that in the spring of 1920 it might easily have sold for \$400. an acre, perhaps more. Yet the man who owned it in 1920—a very hard-working and capable farmer, by the way—lost possession of it not many years later and became a tenant.

Let me emphasize right here that, the man who lived a contented lifetime of unthreatened security on that farm was no better a man, and no better a farmer, than the one who later lost it. The times had changed, not the quality of the men.

I suppose Grandfather was really very far from being a highly efficient farmer. He never bought good seed except for a very few things, like clover. Of all his tasks, he liked buying and selling and business transactions the least. He did not keep books. He would have thought you had funny, outlandish ideas if you had asked him what his farm plan was.

Yet, he had a plan. It was to produce everything possible on the farm to supply directly the family's needs, to reduce all need for things the farm could not produce, and to grow enough extra to be sold, to pay for the few things that had to be bought. Grandfather never had much cash. He never needed much. Life on that farm was humble, but it afforded a rich chance for happiness. It was, above all things, secure, because life at the grass roots was untouched by events beyond the horizon.

Grandfather's farm was, in fact, a haven from the great world outside. For that farm was an institution of economic resilience and social safety that was the culmination of many centuries of evolution toward an ideal of serene and decent security.

Nothing perhaps would seem more simple, or more direct, or more complete an answer to the ills that now assail us than to return to that kind of life.

But is that possible?

Why Can't We Go Back?

We cannot go back to that kind of farm life and security unless we break almost every tie we have with all the world that lives beyond the bend in the road or over the farthest hill.

We cannot go back to that kind of farm life and security unless we first give up automobiles and trucks and tractors and telephones and radios and electricity and every

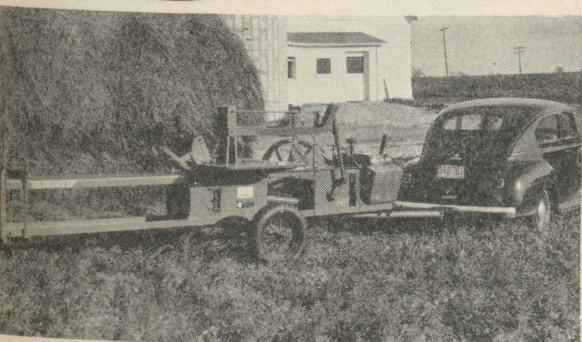
*Abridged from Land Policy Review, 3:3-12, 1940.

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other mechanical advantage that modern science and technology have created for us.

For all such things are the products of specialization and of mass-production industry that can exist only if there is beside it a specialized and commercial agriculture to feed and clothe it and supply certain raw materials. And both commercialization and specialization inevitably means dependence upon others, upon the market, upon a million deeds and events which cannot possibly be influenced and controlled by the same methods and procedures that Grandfather used to influence and control the course of events upon his farm.

We cannot have that kind of subsistence security on the farm so long as only one in four of our total population lives on the farm.

Many and vast areas that have an important and legitimate agricultural place in an interdependent and specialized economy cannot possibly support the subsistence kind of agriculture upon which Grandfather based his independence.

Grandfather bought this farm originally for \$1.25 an acre. The house and the other buildings on the place were constructed, a little at a time, largely by his own labor, and at least in part from materials off his own land. When he first drove west from Ohio, all of his original capital was in his pocket or in his wagon.

Suppose the same young man were starting out from Ohio today with a team, a wagon, a plow, a few tools, a cow and \$200. in his pocket—where would he find a rich quarter section of Iowa land for \$1.25 an acre? He'd have to lay out about \$100. an acre, which is \$16,000—a tidy sum for a young fellow of 21 to start life with.

If, however, a young man could induce some capitalist to lend him enough to buy such a farm, and then to equip and stock it well enough to have any chance to pay out, he would be loaded at with a debt of at least \$20,000. which he would have to pay back with interest.

By the very best terms he could ordinarily hope to get, he would have to lay out in cash at least \$1,500 annually on amortization, interest charges, taxes, and necessary insurance and upkeep.

It is perfectly apparent that he could not possibly meet his obligations and at the same time retire from the world and get the kind of subsistence security that prevailed on Grandfather's farm or 30 years ago.

I wonder if we are willing to accept fully the implications of these things. We recognize our social and economic dependencies when they are pointed out. We are willing to admit (when we must) that, as individuals or groups, we are hung as by our teeth to a whole whereof we are but parts. Yet when we act, we insist most of the time upon acting as autonomous groups and individuals who succeed or fail regardless of others and regardless of the working of the whole.

We form into pressure groups, each intent on making its own share of the gravy the biggest, when actually the crucial matter is the total amount of gravy—and that can be increased only by better team-work and a higher degree of co-ordination of parts.

There can be no question that the individual in modern society is entirely at the mercy of things and events over which, as an individual, he has no control. His personal fate and the fate of all his family depend precariously upon remote, unseen events.

As far as comprehension of the dominant activities and forces in our lives is concerned, we comprehend only disjointed parts of things. We get corn out of cans, shoes out of a box, and automobiles out of show windows. Even the thoughts we think, along with the goods we consume, are the mass-production product of a machine age.

Grandfather had control of all the economic factors and forces that affected him and his family. But the world has changed. And we can't control these things by plowing closer at the corners or by putting on extra manure or by planting 10 more acres of wheat. The farm family with a feed bill to pay, fuel to buy, mortgage payments to think of, can meet those obligations only to the extent that outside forces permit. They cannot, by their work on the farm, set the prices of wheat or beef or overalls or lubricating oil, or establish the interest rates.

There is no reason why the specialization that has made us so inter-dependent should be calamitous. There is, in fact, good reason to believe that this specialization in the long run should make us richer in the material goods and more secure. But it will never obtain security for us if we continue to act upon the assumption that we are not members of a team. It will never make us secure so long as we persist in acting as though the distress that is brought about fundamentally by remote causes can be cured by purely local measures.

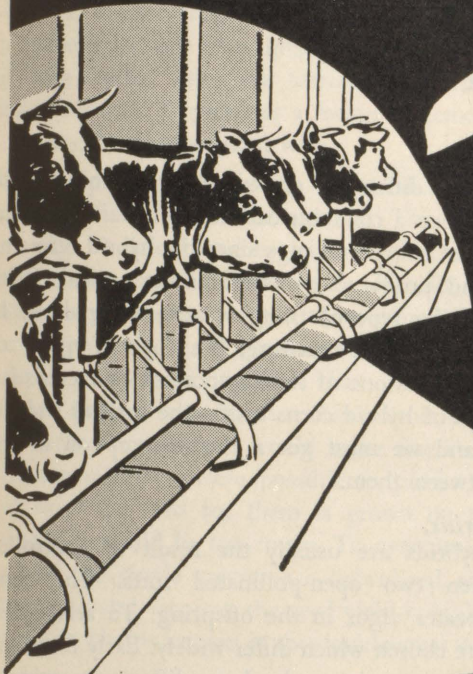
Many a farm family today could improve its level of living by increasing its degree of self-sufficiency at least to the point of providing more of its own food. But while such measures may sometimes relieve the symptoms they ignore the cause.

Only when there is a rational co-ordination of the whole national economy, in which we all share, will we be free from the effects of outside events. And only when that is accomplished will the local measures of local groups bring the full benefits we hope for. But we will never get such progress until the mass of people understand the need and insist upon the necessary measures. The impulse must come from the grass roots, but the people at the grass roots must know the importance of what lies beyond far horizons.

We are inexorably headed toward an increase of deliberate controls over our economy. Henceforth the only issue can be, who will exercise these controls, and whose interests

(Concluded on page 32)

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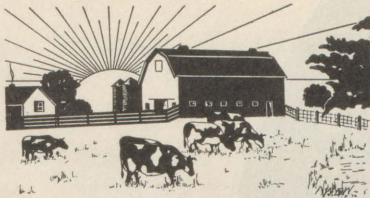
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AGRICULTURE

Articles on problems of the farm

Hybrid Corn

by L. C. Raymond

FREQUENT reference is being made these days to hybrid corn, that comparatively new feature of the corn world. Hybrid corn was first grown on anything like a commercial scale some eight or ten years ago. Since that time its use has spread rapidly until today the leading corn districts of the United States are planting at least 75% of their crop with hybrid. Lack of sufficient seed is all that prevented an even faster spread.

What then is the nature of this hybrid corn; how does it differ from the kinds that have been grown in the past and of what importance is it in eastern Canada? These and other questions will be given at least a partial answer in this short statement.

Classes of Corn

There are just two classes of corn, the so-called open-pollinated and the hybrid. These classes have reference to the way in which seed is produced mainly but are also concerned with the breeding involved.

Open-Pollinated.

Open-pollinated corn includes all the ordinary varieties that we have been accustomed to grow in the past. Long-fellow as a flint and Wisconsin No. 7 as a dent are typical examples. Seed of these and other open-pollinated sorts is produced by planting in an isolated field and allowing the normal fertilization process to proceed. Corn is normally wind or open-pollinated which means that the pollen or male element produced in the tassel is carried by the wind and deposited on the silk of the ear. Through this long canal the male sperm finds its way to fertilize each eventual kernel on the ear.

Strenuous efforts have been made to improve open-pollinated varieties by means of mass selection. Early work of this nature was quite successful but since the turn of the century comparatively little progress has been made. Now there has developed the breeding system which produces the hybrid which stands as one of the outstanding accomplishments of the plant breeder.

Hybrid Corn.

Since corn is normally cross-fertilized, it may be claimed that all corn is hybrid and that is substantially true but the hybrid referred to here is of a special combination and one produced under definitely controlled measures.

One of the outstanding characteristics of a hybrid, whether it is found in the plant or animal world, is the relatively high degree of vigor shown. Within limits, the

more the parents differ the greater the vigor of the offspring. It has been a common custom in Britain for years to cross breeds of sheep and pigs since the hybrid offspring grew faster and produced a better market animal. With corn a very similar type of thing is now being done. In this new system of corn breeding, the "hybrid vigor" of these new varieties is one of their important characteristics.

Two groups of hybrid corns exist—the varietal and the double-cross, and we must get a clear conception of the differences between them.

Varietal Hybrids.

Varietal hybrids are usually the result of controlled crosses between two open-pollinated sorts. The chief objective is greater vigor in the offspring. To accomplish this, parents are chosen which differ widely. Early flints and late dents are commonly used where differences exist in type, habit of growth and maturity.

At present only one varietal hybrid is available in commercial quantity and that is the one known as "Algonquin." This variety is one that is becoming well known in eastern Canada. It is an early maturing sort producing abundant ears and well adapted for silage in districts having a relatively short summer season. In warmer sections it has yielded very well as a **grain corn**.

Double-cross Hybrids.

The development of the double-cross hybrid is a much more difficult problem. Mention has been made of the



Producing hybrid seed. The tall rows are the male parents — pollen producers. The short rows are the female parents. The tassels are all removed from the female parents and hence these must be fertilized by pollen from the male parents. Hybrid seed is harvested from the female parents only.

hybrid nature of all corn. The first step in producing double hybrids is to reverse the process and actually self-fertilize open-pollinated sorts by artificial means. This process carried on for from five to ten years reduces vigor amazingly but gives the breeder an opportunity to select very uniform, disease free, strong lines, but all much reduced in stature. In any corn breeding establishment hundreds of such inbred lines are carried but relatively few are finally retained. It provides a means of removing the dross from the varieties worked with.

This purifying period is followed by one where the selected inbred lines are recombined. The best combinations can only be determined by trial. Single crosses are accordingly made and the best chosen. Hybrid vigor expresses itself more completely when these inbred lines are crossed than anywhere else. In the best single crosses the resulting offspring are more vigorous than either of the original parents and are as uniform within a cross as peas in a pod.

These single crosses would make fine varieties to grow commercially if it were possible to produce enough seed but since the seed for them is grown on the very small inbreds it would be too costly. To overcome this difficulty two of the single crosses are hybridized and since these are strong and vigorous the seed yield is high. The product of this is what is known as the double-cross since it involves

the two distinct crossings under rigidly controlled conditions.

As previously mentioned these double-cross corns have taken a very prominent place as grain producers in the American cornbelt. In the state of Iowa in 1940 it was shown that double-cross varieties had proven 20% more productive than the open-pollinated sorts and this is quite typical of general results.

Many of these hybrids are now coming to Canada and their usefulness as silage varieties coming to the fore. The Quebec Seed Board has this year recommended two which, on limited trial, have shown good results. These are the relatively early one, Wisconsin No. 606, and the somewhat later sort, Wisconsin No. 645. They may be expected to produce a high quality of silage since they will ear well; to be disease resistant and to resist lodging either that induced by storms or as a result of the corn borer, since strength has been one of the first demands of the breeder.

General Considerations

Whichever kind of hybrid seed is involved it must naturally follow that the price will be higher than with the open-pollinated. Disregarding the breeding work previously involved, the cost of producing seed where the pollination must be controlled is bound to be higher.

(Continued on page 26)

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Homemade Rubber Tired Wagons

by W. Kalbfleisch

WITH A smooth running wagon a tractor can move loads to the barn and return to the field at a speed of six to ten miles per hour. Factory-built rubber tired wagons cost more than one hundred dollars, but you can build a good wagon for half that price out of old automobile parts. The cost of an all-steel wagon frame having automobile axles, tires, angle iron and welded connections will depend on the prices in each district but the wagon can usually be built, ready for the box, for about forty or fifty dollars, which, you will agree, is not an expensive wagon.

Materials for building the wagon can be varied according to the scrap iron on hand on your farm; however, the following supplies will make a sturdy wagon:— Two automobile front axles and tires, seven feet of 2-inch pipe, twenty-four feet of angle iron, 34 inches of $\frac{5}{8}$ -inch shafting, 6 inches of pipe $2\frac{1}{2}$ inches in diameter, bolts and a few pieces of scrap plate. When selecting wheels try to obtain sizes which can readily be fitted with common second-hand tires. The automobile axles can be left in a dropped position for a low wagon or they can be assembled in an inverted position to give the wagon good clearance (as in the illustrations). The man building a wagon can make variations in the construction to use bolts to assemble the parts or can fit the pieces for each section and have them acetylene-welded at the local garage or blacksmith shop.

Building up the rear trucks of the wagon.—To make the rear hounds cut two pieces of angle iron four feet long, and make a kink in each end having a length of about 6 inches. This can be done by heating the angle iron in a forge and bending it in a heavy vise, or the kinks can be bent by cutting a small "V" out of the flange of the angle iron and acetylene-welding it after the lower flange has been bent into place. Drill two holes in one end of the angle and fit it to the automobile axle by the holes formerly used for the spring bolts. To make the support for the

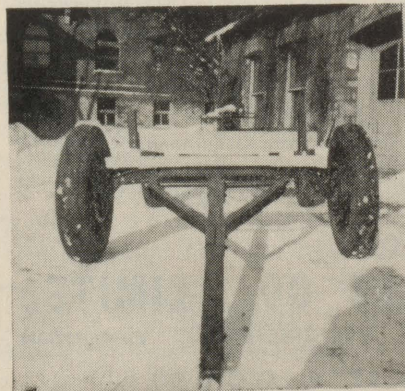
rear bunk, select two pieces of iron about 4 inches square and $\frac{1}{4}$ -inch thick and weld or bolt them to the top of the axles just above the angle irons. At least two $\frac{3}{8}$ -holes should be drilled in these plates to mount the rear bunk. Below the axle a $1\frac{1}{4} \times \frac{1}{4}$ piece of flat iron is formed to fit over the reach pipe and welded to the bottom of the axle. To join the front ends of the hounds a short piece of $2\frac{1}{2}$ -inch pipe is placed over the reach pipe and the angle irons are welded to each side. The hole in this pipe should be drilled extra large to give the reach bolt a loose fit, thus allowing the rear trucks to float on the reach when going over rough ground.

Building the front trucks.—The semi-circular front hound is a $1\frac{1}{4} \times 1\frac{1}{2}$ angle, 64 inches long, having a circle 15 inches in radius and two straight ends 12 inches long. The angle iron projects 4 inches in front of the axles to accommodate the pole for the wagon. It is bolted to the axle where the springs were formerly mounted and has a straight piece of angle iron bolted on top of it to form the top hound. Two pieces of pipe $2\frac{1}{2}$ inches long act as the spacers at the ends of the top hound. By heating the angle with a torch at several spots the hound can be bent into a semi-circular shape. It is not absolutely necessary to have the hound circular, the turn can be made in short kinks.

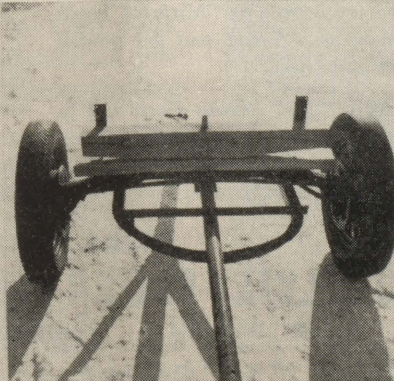
The reach is fastened to the front axle with a heavy bolt ($\frac{5}{8}$) which passes through two plates ($3 \times 4\frac{1}{2}$), one welded to the top and the other welded to the bottom of the axle and each drilled to take the bolt. This swivel bolt should be placed as close to the axle as possible so the wagon will shorten only slightly when the wagon is turned on a road corner. The wheels are held in line by bending and welding the stub steering arm to the axle.

A piece of hard wood $4\frac{1}{2}$ inches broad and $3\frac{1}{4}$ inches thick should be obtained for the front bunk. At the centre this bunk should be drilled for a $1\frac{1}{8}$ -inch king bolt. To keep the king bolt in place, a thick heavy washer is welded

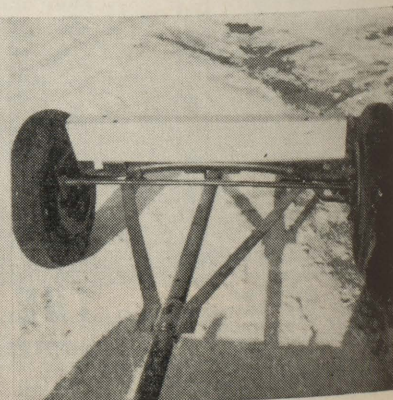
(Continued on page 32)



Front view showing wagon pole.



Front truck.



Rear truck.

RAISING ANNUAL FLOWERING PLANTS FOR THE HOME GARDEN

by A. H. Walker

THERE ARE several methods which may be used depending on the facilities one has and the quantity and size of plants desired at setting-out time the end of May.

1. To produce a large number of plants of good size, a small hotbed would be necessary to raise the seedlings, and another mild hotbed to transplant seedlings into.

2. Where a lesser quantity is required, the seedlings may be raised in convenient sized flat boxes and grown in the window until large enough to transplant.

3. Those who are not concerned about earliness may sow the seeds as in No. 2, and either transplant to a cold frame or to boxes and set boxes in the cold frame.

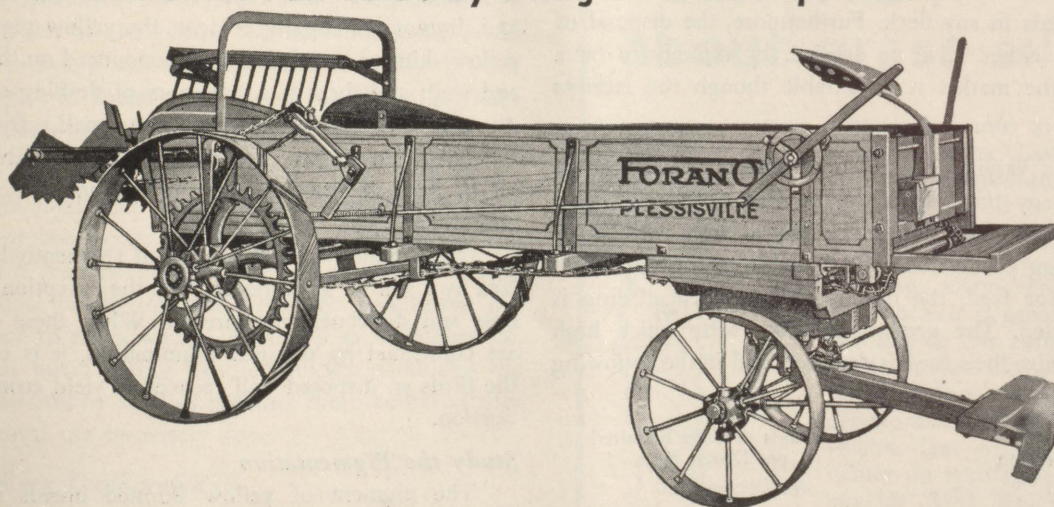
In each case the soil in which the seed is sown should be of a sandy texture and free from fresh or half decayed organic matter. In preparing the soil, whether in a box or bed, firm thoroughly so that there will be no sinking when applying water, and make the surface fine. Sow seeds thinly in shallow drills, cover with soil, firm down with flat piece of wood and water thoroughly with a fine spray on the watering can. If sown in hotbed, shade from sun until the seedlings come up, then remove the shading and commence giving ventilation to keep down high temperatures and attendant high humidity which would quickly ruin the plants. Leave a little air on also at night as long

as there is heat in the manure, and if the weather is cold place some form of covering on the glass overnight. If sown in boxes in the house, the boxes may be set anywhere until the seedlings come up, then place in a bright window in a cool room. In transplanting it is important that the seedlings have a well developed true leaf or pair of true leaves apart from the seed leaves, before transplanting, otherwise many will be lost. Use a richer soil for this stage and it need not be so fine. Set the seedlings firmly, water thoroughly to settle soil about the roots and shade from the sun for one day at least. Whatever method has been used, the plants will now be in a frame and require close attention to ventilation, watering and protection from late frosts. As weather becomes milder, give abundance of air by night as well as day to develop sturdy plants.

For those who have not the time to handle plants in this way, seedlings may be raised by sowing thinly in a cold frame and transplanting direct to the garden. Seeds of many of the quickly growing kinds as alyssum and nasturtium and late ones as asters and zinnas may be sown direct to the garden. If the general run of annuals are sown the first or second week in April and handled as outlined they will be quite large enough at setting out time the end of May.

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Culling As An Economy Measure

by N. Nikolaiczuk

DRASTIC spring culling of laying flocks is normally not done till the late spring heat has taken toll of short-term layers and early moulters. More often than not early culling is unwise because spring egg prices hold firm and steady through the stimulus of Lenten trade and hatching egg demand. These factors combine to make this period a profitable one for the poultrymen. The onset of higher temperatures is a natural salvation for the inexperienced, as such conditions predispose to broodiness and the undesirable early moult and thereby designate those non-productive birds which, for the sake of economy, could well be eliminated from the flock. There are, however, in all flocks additional individuals which should be removed provided adequate knowledge of selective culling on the basis of egg production were at hand.

The premature consideration of the spring culling practice this year arises from the weakness and uncertainty which has prevailed on the fresh egg market from the standpoint of the producer. The failure of a strong early demand for hatching eggs and the stimulus of increased consumption of fresh eggs during Lent to affect appreciably the egg prices to the producer would suggest the need for earlier flock reduction. A great deal hinges on export, but under present conditions the volume of eggs going forward to the British market is uncertain. The factors which are operating so to unstabilize the egg market also serve to make unprofitable the maintenance of low producing birds in any flock. Furthermore, the disposal of culled birds, either alive or dressed, is unlikely to be a sacrifice, as the market is favourable though the receipts are light.

Culling in varying degrees of severity is a measure of economy at any time. It is the poultryman's prerogative against low egg production. Since fifty to sixty per cent of the cost of egg production is attributable to the immediate cash outlay for feed, the urgency of persistent culling is clearly reflected. The greater efficiency with which high producers utilize their feed is demonstrated in the following table:

Eggs per Hen	Pounds of Feed Required per Dozen Eggs
50.....	15.0
100.....	8.3
150.....	6.0
200.....	5.0
250.....	4.2

(Data from the Maryland Poultry Handbook)

The effect of increased production costs through uneconomical use of feed is quickly reflected in the income from the whole flock, particularly at times of low egg prices.

To effectively and wisely correlate external appearance of a layer and its egg laying capacity is a practical art. It is, therefore, subject to errors of human judgment. Nevertheless, the application of a few indicative characteristics will pave the way to greater accuracy.

Check the Roosts

On entry into the laying quarters during the day in search of culls, the majority will be found on the roosts. The better layers, for the most part, will be on the floor near the feed hoppers or in the nests. In order to satisfy their body demands, which are increased by their reproductive activity, they continually seek additional nutrients from the mash in the hoppers and from the kernels of scratch grain in the litter. Their air is one of friendly contentment. The birds on the roosts present another picture entirely. Inactivity may be their only common characteristic, but droopiness, paleness and a tendency toward great alarm upon disturbance is a secondary observation. Ruffled plumage and paleness are often associated with ill-health, but a complete well-preened coat of feathers suggests infrequent visits to the nest. Those birds of the continuous roosting temperament should always be treated with suspicion.

Cull for Poor Health

Failure in health under the strain of heavy egg production is to be expected. Many birds lack size and stamina and, therefore, periodically go "light". In this weakened condition, their combs shrivel to minimum size, paleness and dryness are usually evident, the yellow pigment in the yellow skinned breeds is quite pronounced on the face, beak and vent, and there is a minimum of fleshing on the body. A neck moult often occurs. The small, dry, puckered, shrunken and highly coloured vent is associated with any set of characteristics that are in evidence when a bird is out of lay.

Disease, on the other hand, will frequently be characterized by a similar appearance, with the exception that pallidness and diarrhoea may prevail. When these observations are confirmed by physical examination, it is unlikely that the birds so disposed will recover to yield economical production.

Study the Pigmentation

The pigment of yellow skinned breeds is largely a substance known as Xanthophyll. It is present in the skin of the vent, eye ring, ear lobes if white, beak, body and shanks of pullets prior to laying and of older birds if production has been discontinuous. Feeds such as green forage and yellow corn intensify the colour. With the onset of egg production, this colouring matter from the feed is diverted to the egg yolk and still more is withdrawn from the skin. It is withdrawn in an orderly manner from the

vent, eye ring, ear lobe, beak, body and shanks to result in practically complete absence in these areas on the completion of five to six months of continuous production. The completeness with which the pigment disappears is influenced by several factors as breed and strain, feed, rate of production and age, and therefore some allowance must be made for this variability. As the pigment returns more rapidly to the regions from which it was withdrawn and in the same order, the pigment picture may require some interpretation. A general correlation of pigment loss to number of eggs laid and the time involved is as follows:

Region	Number of Eggs Laid	Length of Production Period
Bleached vent	6	7 - 10 days
" eye ring	12	15 - 20 "
" ear lobe	18	24 - 30 "
" beak	30 - 40	35 - 45 "
" shanks	125 - 175	130 - 190 "

When production ceases at some point mid-way in the process of bleaching, for example, beak, pigment return to vent and eye ring will be evident after several days interruption, but loss of this and beak pigment will continue upon the resumption of laying. This lack of uniform bleaching is frequently encountered and the estimation of past production deduced therefrom. The extent and intensity of bleaching are proportionate to the number of eggs laid and are manifest to a greater degree in better layers. In April and May the best layers will have completely lost their pigment. On the other hand, among these birds one encounters a highly pigmented individual displaying weight and good feathers well preened, but with a moist and dilated vent and other characteristics of productiveness. It is not a matter of deception, for the individual, while laying, has probably laid at a very slow rate, thus producing few eggs and therefore retaining her body pigment. Such individuals should be eliminated from the flock.

Broodiness as a Trait

Any individual trait of a bird, whether inherent as is broodiness or otherwise, which limits production, is undesirable as it reduces the total yearly egg yield. Not only does individual production suffer through broodiness, but inconvenience to other layers is equally as objectionable. The onset of warm spring weather quickly stimulates the urge to brood and by suitably marking the broodies as they appear, removal can be wisely done.

Early Moulting Undesirable

Like broodiness, early moulting is manifest under the pressure of spring weather but it does not show up as readily. The response is delayed and therefore cannot be used as an early spring criterion. Birds which moult as early as May and June are particularly slow in refeathering and remain out of production for an unduly long time. This also prevents the birds from attaining a profitable egg yield.

(Continued on page 19)



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CO-OPERATION AND MARKETING

A page of interest to members of farmers' co-operatives

Last Days of the French Co-Ops.

(This article written by B. A. Skomorowsky, until June 1940 Editor of Le Coopérateur de France, is reprinted from the "Maritime Cooperator").

The 29th annual Congress of the French co-operative movement met in Paris, on May 2, 1940. France had been at that time in the war for eight months, but with the exception of some frontier regions, co-operative activity was not disrupted by warfare: in fact, Consumers' Co-operation seemed to be designed to play a role more important than ever. Since the beginning of 1940, sales were increasing at the rate of 20% over the previous year. It was obvious, that the economic policy of Daladier's government, based on the passive principle, "business as usual," was not adequate for the needs of the country and that the public authorities would shortly be obliged to ask the co-operative movement for assistance. The latter was, at once, ready and able to respond wholeheartedly to the pressing necessities of the war situation.

This is, in a few words, the data describing the economic and moral strength of the co-operative movement on the very verge of the French collapse.

The retail distribution societies with a membership of 1,200,000 families supplied through a network of more than 5,000 shops, goods amounting to 2,200,000,000 francs.

The French Co-operative Wholesale Society (Magasin en gros des coopérateurs de France) service thirty eight regional Co-operative Unions, its turnover amounted to 1,280,000,000 francs, with a net surplus of 65,000,000 francs; its productive output was no less than 81,000,000 francs. One dollar was worth forty francs in 1939; however, one must also take into account the purchasing power of the franc; and according to my inquiries the real ratio between these two currencies was at that time 20:1).

The Attack

In addition to its economic centre, the French C.W.S., the co-operative movement organized as well the Federation Nationale des coopératives de consommation, the French equivalent of The Co-operative League, for the purpose of education, publicity, legal protection, etc. The activities of this Federation were manifold and successful. I shall stress only one aspect, in which I had a close interest, i.e. the publication of a weekly paper: "Le Coopérateur de France" published in Paris in several regional editions, with a total circulation of 300,000 to 600,000 copies every week.

The Co-operative Congress was scarcely finished when the blunt Nazi attack began, which in a few days overran the Netherlands and Belgium. Most industrial sections of

France with the strongest co-operative life, were occupied by the invader.

On the night of the 9th began the evacuation of Paris. It was necessary to leave the capital without delay. For the last time, I went to our headquarters, in the Rue de Provence. The Federation was to be transferred to Tours, on the banks of the Loire. It was impossible to take heavy luggage. We decided to save, first of all, some rare documents, especially the unedited manuscripts of Charles Gide, which were kept in our library. Sent by a co-operative truck, the archives arrived safe and sound at their destination, "somewhere in France."

Tragic Sight

It was much more difficult to remove the staff of the Federation. The trip from Paris to Tours, about 150 miles, continued for many days, since the roads were overcrowded with motorcars, horses, bicycles, pedestrians, trains of artillery, heavy tanks, baby carriages, etc. Nazi planes descended very low, bombed and machine-gunned the refugees. This exodus has been described many times and I can only say: "He who was not there, will live much longer."

I went a great part of the way on foot and when I finally came to Tours, the invaders arrived at the same time from another side. Nevertheless, I succeeded in passing into the so-called "free" zone. My colleagues of the Co-operative Federation remained in occupied France. It was not possible to write them. The country was divided into two zones, completely isolated from one another by a sharp line of demarcation. A heavy curtain of German "Panzer-divisionen" (motorized divisions) conceals from our view more than nine-tenths of the French consumers' co-operatives which are in the occupied zone.

The Future?

And now a last question: What will be the future of the French Co-operative movement? I shall answer in all sincerity.

Its fate, as well as the fate of Belgian, Dutch, Danish, Norwegian and, in general, European Co-operation, is indissolubly tied to the destiny of democracy in Europe. In case of the defeat and downfall of fascism and nazism, the revival of the co-operative movement is unquestionable. On the contrary, it is my personal belief, if Hitler is victorious, the co-operatives will die, and the great economic, social and ethical movement, started one hundred years ago, the Equitable Pioneers of Rochdale, will perish. The Nazi would peradventure keep on the co-operative flag, but they would undoubtedly kill the SPIRIT of consumers' co-operation, which is democracy applied to economics.

MARKET COMMENTS

During the last few weeks there have been many happenings of special interest to those who follow closely marketing trends. Among these may be included the wheat proposals for 1941, regulation of apple sale, the bonus on cheese production in Ontario and the proposal by British Columbia of a bonus on egg production. Outside of our own country might also be mentioned the bill now being debated in the United States Congress proposing to increase by around one-third the provision for assisting farmers to bring supply into line with market needs and to allow the business of farming to carry on.

These developments all show how great has been the dependence of the farming business on the European market. Changes in the needs of that market have compelled changes in production. Some export products such as fresh apples have become war casualties. Other products such as bacon, cheese and manufactured milk are now required in great volume. What future needs will be it is hard to say. One thing certain is that changes in needs are likely. For this reason changes in regulation may be expected.

It might be thought that with increased regulation there would be less need for records of prices. It is just the other way. Changes are made in regulations. More changes are to be expected in the future. Both to bring about the most needful changes and also to understand the need for and reason of the regulations made requires close study of market trends.

Trend of Prices.

	March 1940	February 1941	March 1941
	\$	\$	\$
LIVE STOCK:			
Steers, good, per cwt.	7.43	9.25	9.37
Cows, good, per cwt.	5.60	6.34	6.40
Cows, common, per cwt.	4.34	4.31	4.55
Canners and Cutters, per cwt.	3.38	3.51	3.77
Veal, good and choice, per cwt.	10.61	12.21	12.00
Veal, common, per cwt.	8.98	10.38	9.88
Lambs, good, per cwt.	9.83	9.99	—
Lambs, common, per cwt.	8.88	8.54	8.58
Bacon, hogs, dressed, B.1, per cwt.	12.40	11.52	11.63
ANIMAL PRODUCTS:			
Butter, per lb.	0.29	0.33½	0.34½
Eggs, Grade A, large, per doz.	0.24	0.22½	0.21½
Chickens, live, 5 lbs. plus per lb.	0.18½	0.19½	0.20½
Chickens, dressed, milk fed, Grade A, per lb.	0.21½	0.26½	0.26½
FRUIT AND VEGETABLES:			
Apples, B.C. MacIntosh, Extra Fancy, per box	2.05	1.90	1.95
Potatoes, Quebec, No. 1, per 75 lb. bag	1.05	0.60	0.55
FEED:			
Bran, per ton	26.75	27.00	27.00
Oil meal, per ton	(40%) 35.25 (39%) 40.00 (32%) 33.00		

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THE WOMEN'S INSTITUTES PAGE

*A section devoted to the activities of the Quebec Institutes
and to matters of interest to them*

ACTIVITIES OF QUEBEC INSTITUTES

A suggestion made by Lady Tweedsmuir, and sponsored by Mrs. Franklin D. Roosevelt, has resulted in a national organization in the United States which will, no doubt, be of great benefit to England. Mrs. Alfred Watt, President of the A. C. W. W. has also become interested in the project and urges the co-operation of Canadian Women's Institutes. This project aims at supplying England with garden seeds in order that she may grow sufficient vegetables for summer use. Seeds of this kind are very scarce in England, especially peas, climbing and dwarf beans, broad beans, carrots and onions. It should be noted that the Spring season in England is several weeks earlier than it is in Canada, so that no time should be lost in putting this scheme into effect.

Ascot Branch received a very gratifying press notice in the daily paper in Sherbrooke County for its effort to "Boost Savings Campaign"—as the caption read—by the decision made at the last meeting to purchase six War Certificates. The idea is gaining attention in several other Branches, notably in Stanstead County, and in Orford, Granby-Hill, Inverness and Wright Branches.

The work in Child Welfare and Public Health has received a considerable amount of attention during the month, in spite of the continuous demands made upon the time and funds of the Institutes by war work. Several Home Nursing Classes are being carried on, sponsored by the Women's Institutes, including Sawyerville and Minton. Ascot keeps a first-aid supplied with necessities in the Consolidated School. Scotstown held a Health Contest with War Savings Stamps as prizes—a practice widely approved by the Institutes. Many Branches, especially in Stanstead County, also at Cowansville, are supplying hot school lunches.

Almost without exception the Branches throughout the Provinces are busy with Red Cross work. Several are making wool collections, to be used in making blankets for overseas refugees. Others are supplying material for quilts. Among the Branches thus engaged may be mentioned Ascot, Orford, Wright, Granby-Hill. The Convener of Child Welfare at Scotstown, Mrs. B. G. Mayhew, arranged a local moving-picture show, in the High School, half the proceeds going to the Junior Red Cross.

Programmes with educational merit have been carried out in many places during the winter months. In Abbotsford, Rev. W. A. Hamilton, gave a splendid address, before the Institute, on the life of the noted Canadian author and educationalist, Stephen Leacock. Minton Branch held a helpful discussion on educational matters at the

monthly meeting. At the Cowansville meeting, Mrs. W. D. Smith, gave a very instructive talk on Modern Greece. All branches in Pontiac County report activity in the study of Canadian industries during the past month. Accounts of minerals in Quebec, and their uses in the present war were heard with interest. A good deal of practical work was accomplished in this County. People who are shut in by winter conditions and school children were well looked after. A quilt was sent to the Wales Home at Richmond, and all branches sent parcels to boys overseas. Many branches in the County had a share in the savings drive by promoting the sale of War Savings Stamps.

In the rural districts special attention was directed to the C. B. C. Farm broadcasts.

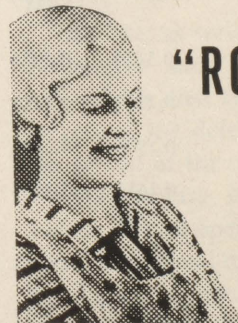
The energetic members of Bristol Branch, Pontiac County, helped to finance the local skating rink, and later held a skating party. A paper on "How the Present Conflict is Influencing Canadian industries," was delivered in this branch. "Canada's Second Front Line" was the subject of a paper in the branch meeting at Beech Grove. Elmside branch had a discussion on favoring British goods, and decided that it is good policy to do so. A paper on the life of Mrs. George Black was heard in this Branch. The roll call asked for the names of Canadian composers or song-writers, and a paper on the Life of Mozart was followed by a musical programme.

Miss Shaw, President of Shawville Branch, was among the fortunate ones who attended the Course for rural women at Macdonald College. This branch raised funds by holding a series of Dressmaking Teas.

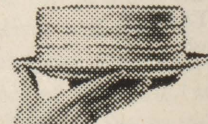
Mrs. Cameron E. Dow, Provincial President of Quebec

(Continued on page 17)

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IF IT'S "OGILVIE" — IT'S GOOD

Planning and Buying Your Summer Wardrobe

by Dorothy Cliffe

PLANNING your summer wardrobe is going to be fun this year with so many exciting new designs being shown and such beautiful materials being displayed. If you make your own clothes, all you have to do is wander through the stores and see the great variety of summer goods and you will get inspiration and enthusiasm for planning what you are going to make. There are lots and lots of new patterned materials, from the bright flowered ones to the proverbial polka dot. There are also many new novelty patterns such as those with little animals, or little Mexican men and the colours are just what you have been wanting. You can hardly resist buying them.

If you buy your clothes ready made, you will be delighted with the new colours being shown, pale yellowy grey, pale dusky pink, both with tiny patterns and that very new colour in a plain material which is neither beige nor grey. Plaits and fullness are still with us and are so very attractive. And believe it or not the shoulders are coming down gradually. Instead of a huge shoulder padding, we have a much smaller one, so that the shoulders are not perfectly flat but still have enough padding to build them up ever so little.

Let us suppose you are going to make your clothes. First of all, consider when the type of dress is to be worn, whether in the morning, afternoon, evening, for shopping, sports or one in which you are just going to knock around. Then choose your type of material, whether silk, linen, rayon or cotton. Before buying the pattern, think about your figure and see if you can choose a design which will do things for you.

Are you too thin?

Plaits and lots of fullness are just what you need. Lots of material will add more bulk to your figure.

Emphasize the horizontal lines either with tucks, or other decorations, or by a peplum, or a two-piece dress.

Side trimmings whether on the sleeve or skirt will add width.

When you buy your material, avoid prints that have lines going up and down. Floral designs are very attractive for you or any kind of design which carries the eye around.



Are you on the plump side?

Stress the vertical lines to lead the eye up and down instead of around.

Avoid any side trimming either on the sleeve or skirt as this tends to increase your width. In other words, keep the boundaries inconspicuous.

Do not have too much trimming on your dress, but choose plainer styles.

In choosing your material, avoid large patterns and loud colours. Pick a more subdued colour and a small pattern.

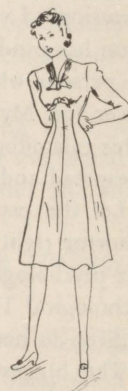


Are you too short?

Emphasize as strongly as possible the vertical line by placing the longest line of the design in the center of the figure. This can be done by having a long panel in the front, a row of buttons from neck to hem or some kind of trimming which goes up and down.

Avoid too short skirts.

In choosing your material, choose one whose design carries the eye up and down rather than around.



Are you too tall?

Your blouse and skirt might be of a different colour.

Have a decoration that breaks your length preferably at the waist.

Avoid striped material.

A flared skirt is very good for you.

When buying your summer hat, look for a low one rather than one which will increase your height.



When buying your material, consider these points:

If you want a washable material, be sure to inquire whether it has been shrunk or not and whether the colour is fast to the sun and to laundering.

Look at the weave of the material to see that it is not too loose. The firmer the weave, the more durable the material. A coarser weave tends to ravel and this makes the sewing of it more difficult.

(Continued on page 28)

PARENTS AND CHILDREN

by Mary Avison

We print the following article which has been received from the Principal of the La Tuque High School and will as usual welcome contributions and questions from our readers. The Editor's comment will be found at the end of the article.

THE DISASTROUS CONSEQUENCES OF "SELF-EXPRESSION"

by James Hodgkinson

I have been a high school teacher for seven years, and a principal for four years. I am now on the point of leaving the profession. But I feel I may render a useful service to those who "carry on" in the teaching ranks if I can help in exploding a dangerous theory that has entered into many homes.

This theory is the currently popular conception of allowing the children to "develop their powers of self-expression". I venture to state that no other single mistaken notion has produced such appalling damage as has this one. The persons who originated this idea have a great deal to answer for. My sincerest hope is that a halt may be called to this calamitous movement before the harm becomes more widespread and more serious.

Let the psychological experts stifle their exclamations of horror right here. I am not attacking the soundness of their psychological theories. But I do declare that they are psychological THEORIES. And I assert further that current practices do not justify them.

The biggest trouble with the theory of "self-expression" lies in the fact that most parents are NOT experts in psychology. A large percentage of them know nothing whatever about applied psychology. In the homes of the great majority, the psychology of self-expression has turned into a disaster of the first magnitude.

The basis of these arguments is not merely another psychological theory. They are based on observed facts. At this moment, I could name a large number of parents who wish that the phrase "self-expression" had never appeared in the literature of child training. These parents, during the past few years, have sown their seed in "self-expression" and today they are reaping a terrible harvest. I feel sorry for these parents; I sympathize with the teachers of their children; I am gravely concerned about the future of the children themselves. I do not know of a single family which has succeeded in raising its children properly by "allowing them to express themselves"; but I do know of many that have tried the method—and failed.

As administered by a trained psychologist, the ideology of self-expression would undoubtedly produce a breed of self-reliant, self-confident youngsters, free from harmful complexes or inhibitions. As administered by the average parent, however, it has reared a crop of unreliable, over-confident "hoodlums", who respect neither parental

authority nor any other.

What shall be thought about children who have to be searched for at every meal-time? Of children who refuse point-blank to come home at meal-time or bed-time? Of children who "talk back" to their parents in front of visitors? Of children who defy their parents whenever they feel like it? Of children who stay out on mixed parties till two o'clock in the morning? Of children who "express themselves" by throwing rocks at their neighbours' windows? Of children whose chief concern is to obtain the maximum amount of pleasure with the minimum amount of effort?

I know what I think about them!

I also know what their own parents now think about them.

I know that it is time this folly was stopped.

In too many cases, the doctrine of "self-expression" has merely resulted in pursuing the "lines of least resistance". In too many instances, it has resulted in attempts to shift, from the home to the school, the responsibility for the proper up-bringing of the children. And, alone, the school cannot carry out this task. It can only be carried out successfully when both the school and the home are doing their full share.

The situation offers only three alternatives, and the first two of these are obviously impractical:

(1) to implement the theory of self-expression by conducting night schools for parents (with compulsory attendance), where they will learn the necessary elements of applied psychology;

(2) to remove the children entirely from their parents' care, between the ages of two and twelve, and train them in institutions where self-expression programs are directed by experts, or

(3) to expunge the entire doctrine of self-expression from the average home.

In conclusion, therefore, if your magazine can exert an influence to eradicate this miscarried program from the home, I believe it is one of your gravest duties to undertake the job without further delay. You owe it to the children, parents, and teachers of tomorrow. More than this, you owe it to democracy.

Editor's Comment

Mr. Hodgkinson in his article on "The Disastrous Consequences of Self-Expression" has described a situation of which we must all be aware—the frequent miscarriage of child training based on the idea of self-expression; but we cannot agree with him in his diagnosis of the causes, and we regret that he has no constructive suggestion to place alongside his criticism. Of his three alternatives he states that two are obviously impractical; we are sure that the third is even more so.

No idea or theory develops without relation to the world of which it is a part. The modern emphasis on self-expression in education is the result of a too great emphasis on absolute obedience and repressive discipline in

the past. "To expunge the entire doctrine of self-expression" is not only impossible in a democracy but to attempt it is to run the risk of resorting to such extremes of repression as we have seen in Germany. It is the sign of a people who have given up their faith in the common man, who have lost their belief that he can be really great because of what is inherent in him as a human being.

On the other hand, we obviously do not recommend that parents should give free reign to all the impulses of their children. Most theories suffer from the unintelligent enthusiasm of disciples who lack understanding and who 'take up' one idea or phrase and magnify it out of all proportion. Where this is done, as in the cases referred to by Mr. Hodgkinson, both child and parent are headed for disillusion and disaster.

To believe in self-expression as the one basic principle and to omit the equally important truth that children must learn to understand the consequences of their acts and be allowed to experience the laws of cause and effect in the social as well as the physical sphere, would be to be lacking in sound common-sense and certainly would not be recommended by anyone who used his full intelligence on the problems of child training.

The most significant point made in Mr. Hodgkinson's article is that children can be successfully trained only "when both the school and the home are doing their full share". We are surprised therefore that he rules out so completely the training of parents in sound educational methods. Lack of preparation for parenthood has been one of the serious handicaps of the parents of our generation. The responsibility for this lies on both the home and the school. Lacking specific training some parents have taken up new fads; some have relied on their common sense and a readiness to learn from experience rather than turning to half-understood theories. But many—far more than is perhaps realized—are voluntarily seeking training because they recognize their lack of knowledge and experience. Does Mr. Hodgkinson not know that Home & School Associations, Women's Institutes, the Y. W. C. A., Social Welfare Councils, Universities and many other organizations across Canada, are providing assistance at this point. They believe that ordinary average human beings who desire to become wise parents (not expert psychologists) can do so if they undertake the job as seriously and as conscientiously as any other important job is undertaken.

Because a few go to extremes let us not condemn a whole movement. Let us rather encourage the extension of such study so that theories may be understood before they are applied. More important still, let us assist parents to understand and believe in themselves and their children and to carry out with ability and common-sense their part of the responsibility which rests equally on home and school.

Women's Institutes . . .

(Continued from page 14)

Women's Institutes, urges that all possible contacts be made with overseas Institutes. The practice of making "pen-friends" is on the increase, the return letters from England giving vividly an idea of what is being experienced there. Grateful thanks for small favours, as cards, samples of maple sugar, pictures of favourite scenes, have been received. "Just to know that somebody cares", as one woman expressed it, is very evidently a help in this time of trouble and anxiety.

Mrs. Dow suggests that tea-bags be sent to be used at the monthly meetings of English and Scotch Institutes, so that each member need not bring her share, as now, to each meeting. For what would the English woman do without her cup of tea? By such apparently trivial means the bonds of Empire are kept strong. Mrs. Dow quotes from British Home and Country: "We cannot all do spectacular things, but we, one and all, can, if need be, drudge for victory."

The inevitable shortage of man-power in Canada during the coming summer gives rural women an opportunity to emulate their British sister overseas in the activities of the Land Army of Britain.

The year gives every indication of being filled with many kinds of work, perhaps none of it very spectacular or outstanding, but all uniting to form a better and more enduring basis for "Home and Country".

M. Elizabeth McCurdy.

CLEANING UP THE FLOWER GARDEN

As soon as the snow has melted and the ground is beginning to dry, work can start in the garden. If the tops of the perennials were not cut off in the fall they should now be removed and any branches or other trash that has collected on the beds should be carefully raked off. If a mulch of manure was used in the fall, the fine part of the material can be dug in to add humus to the soil. At this time an application of a commercial fertilizer with the formula 4-8-10 can be scattered on the surface and dug in.

Any broken or damaged branches should be removed from shrubs and trees, being careful to make a clean cut and not to leave ugly stubs on the trees. Late blooming shrubs like *Hydrangea* can be pruned at this time.

In the rose garden it is a mistake to remove the protecting material all at once. If boards (or brush) were laid over the mulch they should be removed first and a fork thrust into the straw or leaves in order to lift them a little so that air can get in. In a week or so if the weather is suitable the top layer of straw can be removed and the remainder taken off gradually. If the nights are very cold and the days dry and sunny the mound of earth should be left over the lower part of the rose bush until the soil is beginning to warm up and the roots are waking up from the winter sleep.



DESIGNS FOR LEARNING

The spoken word perishes, but the written word endures.
—HORACE.

COMMUNITY SCHOOLS REPORT

PART 1 — WHO CAME, AND WHY THEY CAME

At the close of the Community Schools last November, a questionnaire was distributed and was answered by about 60% of the people registered. On the basis of the answers and by use of the registration forms, a fairly accurate idea can be formed of who came to the Community Schools, why they came, and what they would like to have the Schools do in the future.

The 795 who registered were drawn from 57 different communities. They drove, on the average, 9 miles each way to schools, the maximum being thirty-four miles. Slightly less than half were from the farm. The rest represented over thirty-five occupations which ranged from doctor and factory manager, to casket trimmer, domestic, artist. Three girls plaintively listed themselves — "at home." The oldest student was 82, the youngest 10 — both ladies. One who came for mechanics had never been to school. Of those who answered this question, 6 per cent attended or had attended high school. There is reason to believe that the more highly educated were more likely to answer this question so that the actual percentage who did not reach high school may be higher. 231 had participated in some form of continuing education which ranged from graduating in history from Oxford, and agricultural courses at Macdonald College, to I.C.S. courses, and "the army." In only one school was it felt that this social melting pot inhibited the proceedings; indeed, it was generally felt that it had the opposite effect.

Why did they come? 712 answers were given to this question, in some cases one person giving more than one reason. These verbal answers have been carefully classified into four categories as follows:

Place	Ayers Cliff %	Bury %	Lennox- ville %	Richmond %	Total %
Reason of Interest					
To study a certain subject	43	47.1	55.9	58.4	51.1
Fun, new experience, etc.	35	34.3	26.4	31.4	31.8
Interest other than sub- jects — intellectual, good cause, leadership	10	9.3	10.3	0	7.4
Curiosity	12	9.3	7.1	9.9	9.4
Total Reasons of					
interest	157	224	98	233	712
Total Registration	162	169	173	291	795

This was Lennoxville's third annual school. Ayer's Cliff had held a small school in 1939. Richmond had more "new" students than any school. Lennoxville had fewer young people, while Bury had the most farmers.

In the questionnaire, interesting facts were revealed. On the basis of number of times non-classroom topics were mentioned as enjoyable, it was possible to rank them, beginning with "1" as the most popular.

Place	Ayers Cliff	Bury	Lennox- ville	Rich- mond	All Places
Forum					
Speaker	3	3	1	1	1
Panel	7	8	6	8	8
Debate	7	6	4	3	5
Recreation					
Folk Dancing	4	4	3	4	4
Games	5	7	5	7	7
Movies	2	2	2	2	2
Singing	1	1	2	5	3
Amateur Night	6	5	8	6	6

This table, and the one showing the reasons for interest in adult education, show very clearly the frank desire of the people "for fun, to meet new people, to secure mental improvement, to break the deadly monotony of things, to relax at old-fashioned dances, and to see the movies." Far from deploring the lack of serious intent in at least one third of the reasons given, we hail it as the most hopeful aspect of the whole program.

Why? Because it is symptomatic of social rather than self motivation; a man may improve himself by his own fireside but he won't learn to play, or work with his neighbors by his own fireside. When a man says, "I want to neighbour more", he is expressing the spiritual inadequacy of his present life, and he is looking to community and to communal experience for the realization of needs that cannot be satisfied individually. He seeks in community the extension of himself, and the fulfillment of his needs — economic and social — because he senses his individual inadequacy. Whether this is the province of adult education is a question that cannot be dealt with here, and for us in the Eastern Townships is a trifle academic, since we are in it now for better or for worse. But we are in it without regret because it is only at this level of life that education that is something more than memorizing the multiplication table, can function.

Part II — The Financial Report, will appear next month.

INFORMATION AND WHERE TO GET IT

Building a Wind Electric Plant. Circular No. 13, by Prof. L. G. Heimpel, Agricultural Engineering Department, Macdonald College, Quebec. - 15 cents.

This circular gives construction details for the building of a wind electric plant, using a car generator for charging batteries. It also includes detailed instruction on the design of a propeller and has plans for the making of a six foot blade.

Gasoline Engine Ignition. Bulletin No. 19, by Prof. E. A. Hardy, Agricultural Engineering Department, University of Saskatchewan, Saskatoon, Sask. 10 cents.

This bulletin describes the operation of all low voltage and high voltage ignition systems used on farm gasoline engines and tractors. It covers the Ford "T" ignition system, standard automobile ignition and tractor magnetos. Instructions are given for the timing of small gas engine, automobile and tractor ignition systems to the engines. It contains information on setting spark plugs, breaker points and other parts of the electrical equipment.

Culling As An Economy . . .

(Continued from page 11)

Handling Quality

With critical culling previously, only the most desirable body type should remain at the time of the spring cull. Size and capacity for the breed provide the strength and ruggedness with which to undergo long distance production. Individual characters, however, denote better laying quality. Clean cut, well-proportioned heads with alert and prominent eyes are characteristic of superior layers. Beefy, masculine and crow heads are indicative of low, though possibly continuous, productive performance. Fullness of abdomen resulting from pliable skin formation and well-spread bone structure in that region is usually associated with better laying qualities. Tenseness, heavy abdominal fat depots and stiff blunt lay bones while in production detract from superior status. These observations should receive their due consideration.

It has been emphasized that culling is a matter of art where one must rely upon the expression of physical characteristics in the individual. The application of a judicious culling program based upon observations of individual health, pigmentation, broodiness, moult and handling quality will be correspondingly rewarded in lowered cost of egg production through the elimination of sub-marginal layers.

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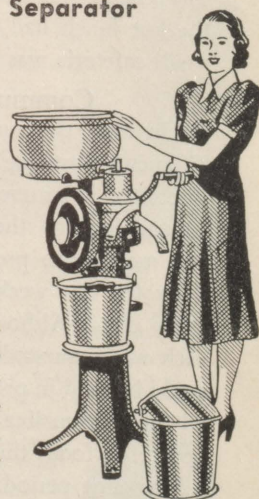
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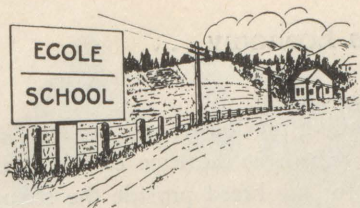


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SCHOOL PROBLEMS AND VIEWPOINTS



BETTER SCHOOL LUNCHES

by Gwendolyn Taylor

IS THE SCHOOL child in your community receiving an adequate noon day meal? Perhaps you have a school lunch problem which is difficult to solve. Let us take a glimpse at ways and means some districts are adopting to meet this situation, with the hope that their solution may be of assistance to you.

Frequently, in rural schools, there is available neither space nor equipment for providing even a single hot dish for the school children. Here is an opportunity for resourcefulness and ingenuity on the part of the teacher and the community. To secure funds for the purpose of obtaining equipment, a concert, play, exhibition or demonstration could be given. Usually, the teacher is willing, in spite of the extra burden, to put on one of these. A sufficient amount to purchase the essential equipment, such as oil stove and dish pan, will likely be realized. Each child is then asked to bring with his lunch a glass jar of food, for example, soup or cocoa, which can be heated. This method has several advantages in that it places the entire responsibility for the child's lunch on the parent; it requires minimum equipment and no preparation at school; and it does not greatly disturb the classroom routine. In one school where this scheme was tried out, after one year the importance of the hot lunch had been so effectively demonstrated that a small cafeteria was started.

Community Groups Can Help

In most communities there is some group, such as the Women's Institute or Home and School Club, which is interested in promoting better health amongst the children. In one locality, the Home and School Club arranged for one member to prepare either cocoa or soup in her home daily for one week, take it to the school and serve it to every child. Although no child was refused the hot dish, each was requested to pay five cents, or to bring food that could be used in preparation. This scheme works out provided the women live near the school. While the minimum is spent for food, this method proves none too reliable over a long-time period.

In one centre, the hot lunch problem is solved by the whole community. The women get together in the fall and can surplus vegetables which are used in soups during the winter. Menus are planned by the teachers. The class is organized to prepare, serve and clean up. Each child is asked to bring five cents or that value in food each week. In one school fifty children are served daily during the winter months in this way.

In another community where no type of hot lunch is provided the teacher is anxious to improve the standard of lunches which the children are bringing to school. She is interested in nutrition and has introduced the subject of better food in her classes. With the co-operation of the principal and the parents, a scheme was devised to encourage the children to bring an adequate lunch by grading the lunches brought. A Grade A lunch must contain the following foods:—

1. Milk or a milk drink.
2. Fruit, fresh, dried or cooked; or tomatoes, or an uncooked vegetable.
3. A substantial and nourishing food, e.g., sandwiches with nutritious fillings, as meat, fish, cheese, egg, peanut butter, or chopped raw vegetable.
4. A simple desert is enjoyable but not essential.

She limits the length of the contest to six weeks and checks the lunches of the students who voluntarily entered the scheme. At the end of that time, the pupils with the highest number of Grade A lunches receive the reward. This may take a very simple form such as Friday afternoon party, or a picnic to the woods. In one school where this scheme was tried out, the students who were eating at home felt very much out of the picture and asked to enter the contest. The plan of sending a slip home for the parent to fill in, sign and return weekly, brought most encouraging results. By this means a closer co-operation between the home and the school was established. Good food habits were introduced to the family through the child's lunch. Parents found that children, who formerly refused to eat green vegetables, began to call for them.

What You Can Do

In schools where the hot lunch is not feasible a demonstration by a Home Economics graduate on the school lunch may prove valuable.

There is, however, a decided advantage to be gained by serving a hot meal or, at least, a hot dish. Over a period of years it has been proven that children who have an adequate hot lunch at school have better health records and better scholastic records. Surely this is sufficient reason to improve conditions in any school.

Study the situation in your local school. If you have a Home Economics teacher, you will find her more than willing to help with this problem. Do not, however, expect her to carry on a full-time teaching job and be lunch room

manager as well.

It may be necessary to start this work on a very small scale as frequently the school has not been equipped for serving hot meals. Your school lunch room may consist of a small serving table set up in the corner of a classroom, or you may be more fortunate and have a well-equipped cafeteria. In some schools the Home Economics teacher can work in some preparation of food in the Household Science classes.

In schools where there is no specialist in Household Science, frequently one or more of the teachers are definitely interested in nutrition and with encouragement from the principal and the parents, some scheme can be worked out.

To-day when all the forces are being marshalled to strengthen national defence through health and physical fitness, surely the subject of school feeding should receive our long delayed attention.

RECIPES FOR SCHOOL LUNCHES

Here are a few recipes to make lunches nourishing and attractive.

Many children prefer chocolate milk to ordinary milk. Make up a cocoa syrup and you can have your chocolate milk at any time.

Cocoa Syrup

1 cup cocoa	1/8 teaspoon salt
1 1/2 cups sugar	1 1/2 cups boiling water

Mix sugar, cocoa and salt. Add boiling water slowly. Boil five minutes. Cool. Pour into a jar and keep in cool place. Add one to two tablespoons to one glass of milk.

For the enjoyable but not essential part of the school lunch, a cookie is always acceptable.

Krinkles

1/2 cup butter	2 cups flour
1/2 cup shortening	1/2 teaspoon salt
1 cup brown sugar	1/2 teaspoon vanilla
2 cups rolled oats	1 teaspoon soda dissolved in 1/4 cup warm water

Cream butter and shortening, add brown sugar gradually. Mix dry ingredients and add alternately with soda and hot water. Add vanilla. Drop in small amounts on greased cookie sheet. Flatten with fork. Bake in moderate oven (350°) about 10 minutes or until brown.

Peanut Butter Cookies

1/2 cup shortening	1/2 cup peanut butter
1 cup brown sugar	1 egg
1 1/2 cups flour	1 teaspoon soda
	1/2 teaspoon salt

Cream shortening with peanut butter. Add sugar and beaten egg. Add sifted dry ingredients and chill. Form into ball one-half inch in diameter. Flatten with fork dipped in cold water. Bake in 375° oven 6-10 minutes.

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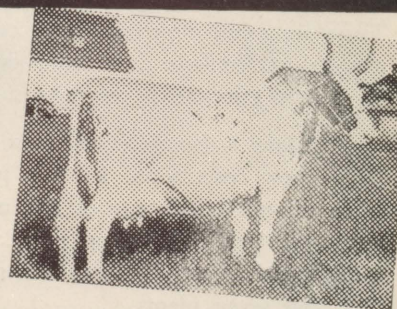
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DEPARTMENT OF AGRICULTURE

*Activities, Plans and Policies of the Quebec
Department of Agriculture*

WE MUST STOP THE CORN BORER

Energetic measures are to be taken this spring to try to destroy the corn borer, which damaged about 60% of last year's crop. Corn production in Quebec is steadily on the increase; the average acreage in this crop between 1933 and 1937 was 48,600. Last year our total acreage was over 61,000 acres. But the corn borer is also on the increase, and unless its damage can be stopped, and stopped soon, the outlook for the corn growing industry is a gloomy one. If corn borer damage continues unchecked, farmers will have to abandon corn growing entirely, and this would be a terrific blow to the farming community which must be avoided by all means.

Control measures are not difficult, but what is needed is cooperation between everyone concerned. The Department of Agriculture will do its share, but no satisfactory results

can be obtained without active cooperation from farmers clubs and municipal authorities.

The corn borer spends the winter in stubble and stalks left in the field, and if these crop remnants are destroyed, by burning and plowing under, the borers are destroyed too. Weeds around cornfields should also be destroyed.

During May a week will be devoted to the cleaning up of corn fields in every municipality. District agronomes, working with municipal councils and farmers' clubs, will see that the clean-up is thoroughly done. It is a provincial law that all corn fields must be cleaned by the first of June each year, and the inspection staff of the Department will enforce the regulations strictly. We are facing a serious situation, but the remedy is simple and will be effective, if everyone will do his share.

CORROSIVE SUBLIMATE KILLS CABBAGE MAGGOTS

Corrosive sublimate, the most commonly used poison for the cabbage maggot, costs three times as much as it did before the war, and growers are looking for substitutes. There are other materials which can be used, such as tar paper discs, creosote dust and poisoned bait. But none of these is so effective as corrosive sublimate.

Just how serious is this increase in cost? Corrosive sublimate now costs about \$6.00 a pound. But one pound, when diluted at the rate of one ounce in ten gallons of water will treat 8,000 plants once. If two applications are made, which is usually the case, one cent's worth of poison will treat seven plants.

It must be remembered that it takes more time to prepare and apply the other control measures than it does when corrosive sublimate is used, and time is an important factor in insect control. It would be better to spend a little more at the start of the season on a known and proven remedy and to save a great proportion of the plants treated than to adopt a "penny wise and pound foolish" policy. So think it over carefully before deciding not to use corrosive sublimate this year.

Canada stands sixteenth among the countries of the world in numbers of colonies of bees kept, but fourth in volume of honey produced, which speaks well for the efficiency of our production methods.

CHOOSING FERTILIZER FOR THIS YEAR'S CROP

Greater care than ever will need to be exercised this year in the choice of fertilizers for farm crops. The Canadian farmers' chief war job will be to increase the production of dairy products of all kinds; therefore, the wise farmer will plan this year's operations and purchase his supplies of fertilizers and other essentials with this end in view. He will also have to plan his work so that he can get along with a minimum of labour.

The required increased production of dairy products can be met in part by increasing the carrying capacity of pastures, increasing the quality of hay, and where possible, increasing the production of grain. The thrifty farmer will give greater attention to the preservation and use of barnyard manure and will consider fertilizer chiefly as a supplement to it. Experiments indicate that commercial fertilizer is usually more effective when used in combination with barnyard manure. The saving and careful use of barnyard manure, therefore, should be the first consideration in increasing production and in permanent improvement of the soil. The chief difficulty, however, is that there is usually not sufficient barnyard manure for all needs. The use of chemical fertilizers to supplement it is an economical practice if judiciously followed.

Automobile spark plug gaps should be set at 30 to 35 thousandths of an inch. Distributor point gap should be 18 to 20 thousandths.

The Holstein Breeders' Meeting

The annual meeting of the Quebec Branch of the Holstein Friesian Association, held in Montreal on March 10, was a most successful one, and was featured by the presence of Premier Godbout and the Federal Minister of Agriculture, Mr. Gardiner. Both the president, M. M. McNaughton and the secretary, R. P. Charbonneau were ill and unable to be present, but the vice-president, Abbe Godin, made an able chairman.

The report of the Secretary showed that with a paid-up membership of 922, the Holstein Association is now the largest of its kind in the province, and the 5,238 registrations made in 1940 were more numerous than those of any other organization. It was reported that 6 new clubs will be organized in 1941, each receiving a grant of \$500, and that a satisfactory increase continues in the numbers of R.O.P. participants. Four field days had been held and two new clubs organized.

The field men, Hermas Lajoie and Leo Caron, reported 49,080 miles travelled during the year in visits to farms and the enrolling of 92 new members in clubs. Through their efforts 350 head had been sold at prices running from \$50 to \$500.

Premier Godbout, after congratulating the delegates on the splendid record of the Association in this province, warned that healthy animals only would be tolerated in Quebec, and that strict measures would be taken to ensure this. The breeders were advised to start now to remove from their herds any animals suffering from contagious disease. He stressed the necessity of being prepared with healthy stock to supply the post-war demands from Europe for breeding stock.

Mr. Gardiner congratulated the province on having a man like Mr. Godbout, both as Premier and as Minister of Agriculture, and expressed his pleasure at having been asked to address the Association. He hinted that Britain might require even more bacon than we have been sending, and advised that the present level of hog production be maintained so that a possible extra demand may be met.

He summed up the Federal butter policy thus: to keep production as near the level of consumption as possible; to eliminate speculation in winter and to maintain the price in summer; to keep the Canadian market for Canadian cows and to keep out imports and substitutes; to maintain legitimate dealers in business.

The policy with regard to milk is to see that the producer gets his fair share of the consumer's dollar, and to provide as much canned milk as possible for Britain. He emphasized again that the Old Country will take as much cheese as we can send.

Rev. Abbe Godin will be the new president of the Association, and V. R. Beattie, of Sherbrooke, becomes vice-president. Hermas Lajoie and Leo Caron will continue as fieldmen.

READY FOR INVADERS?

The yearly battle against insect pests is about to begin, and the motto "an ounce of prevention is worth a pound of cure" is well worth keeping in mind at this time of year. Dusting and praying must be done when the insects first appear, if best results are to be obtained, and equipment should be overhauled now, so that it will be ready for instant use when needed. Moving parts should be cleaned, tightened and oiled. Worn parts should be repaired or renewed, hose connections tightened and motors tested.



Is your equipment ready?

What about insecticides carried over from last year? Supplies should be checked and replacements ordered so that they will be on hand when needed, to avoid a rush trip to town later on for more lead arsenate or some other poison. Any insecticides that have deteriorated should be thrown away.

There are many publications and spray calendars, which may be had free, giving up-to-the-minute instructions about insect control. Ask the agronomist, or write to the Department of Agriculture, at Quebec, or to the Dominion Entomologist, Ottawa, for these.

Indications point to a successful year in the Canadian fibre industry. Acreage for 1941, according to present plans states the Fibre Division, Ottawa, Dominion Experimental Farms, will in all probability be about double that of 1940, when it was about 21,000.

PREVENTING LOSSES OF YOUNG PIGS

Many diseases which cause losses of young pigs can be prevented if proper steps are taken at the right time. Among these are nutritional anaemia, goitre, rickets and worm infection, and all these are related in that all may be controlled by proper feeding and management practices. The first three are caused by a diet lacking in certain essential substances, and one or more present even in a small degree, when combined with poor sanitation, makes young pigs easy prey to parasitic infection.

Anaemia

Even when the sow is fed large doses of iron her milk does not contain enough for the needs of nursing pigs, and unless the young animals can get this blood-builder elsewhere, they are unable to form normal blood. Thus, from the age of three weeks until they are eating solid food, young pigs may become anaemic, which either kills them or leaves them stunted and unprofitable, and less able to withstand infection.

A whitening of the ears is usually the first sign of anaemia; this is particularly noticeable in the white breeds. General unthriftiness follows. One method of treatment is to place reduced iron, or powdered iron sulphate (enough to cover a ten-cent piece) on the tongue of each pig daily. An easier, but not quite as reliable a way, is to mix up 1 teaspoonful of sulphate of iron, one small crystal of copper sulphate and one cup of sugar in a quart of water and apply this lightly to the teats of the sow once or twice a day. This is sometimes used as a preventive, starting the treatment a few days after farrowing and continuing until the pigs are eating solid food.

Goitre and Hairlessness

The soil in some districts lacks iodine, and in these sections goitre and hairlessness occur. Affected litters may be born dead or die soon after birth. This condition may be prevented by supplying iodine to the sow. Pregnant and milking sows should receive iodized salt or a reliable mineral mixture containing iodine. Where extreme iodine deficiency exists in the soil, a surer way to supply this is to make a solution of one ounce of potassium iodide or sodium iodide in a gallon of water and feed a tablespoon of this in the food daily.

Rickets

Young pigs from 2½ to 3 months old are most likely to be affected by rickets, which is due to lack of calcium and phosphorus, combined with insufficient sunlight or vitamin D. Inactivity, rough coats, pain in the joints are the first symptoms. In time the legs become crooked and the joints enlarged. Death may occur from secondary diseases such as pneumonia or intense diarrhoea. Pigs even slightly affected are seldom thrifty in later life.

A proper diet containing a sufficient amount of calcium, phosphorus and Vitamin D, will prevent rickets. These elements are supplied by skim milk or butter milk; lacking these a protein-mineral supplement must form from 12% to 15% of the ration for the first six weeks after weaning.

Sanitation

Simple but logical sanitary measures are absolutely necessary for the profitable production of pigs. The presence of roundworms and other parasites in pigs is proof that proper sanitation is not practised. Pigs cannot be profitable if kept in dirty, poorly lighted, poorly ventilated quarters. Direct sunlight is a splendid disinfectant and windows should be made to open and let the sunlight into the pens. Damp, draughty quarters favour respiratory diseases, and floors sloping to a simple drain and adequate ventilation are good investments.

Worms in Pigs

When worms are properly controlled causes of many diseases are also prevented. Worms seldom affect pigs that were born vigorous and of normal size, that got proper food from the sow, and were kept free of goitre, anaemia, and rickets. However, proved methods of sanitation and other preventive measures are important in avoiding losses. *During the summer season:* Clean the farrowing pens by removing all manure from floors, walls, farrowing rails, platforms and troughs. Scald them with very hot water, with one or two tablespoons of lye in each pail. Let the pen dry and bed it with clean straw. Brush the sow off thoroughly two or three days before she is due to farrow, and wash her teats and udder with warm water and soap, drying her afterwards. Move her into the clean pen. A few days after farrowing move the sow and litter out to clean pasture, away from the barn yard. Keep the young pigs on clean pasture, providing shelter, feed and water until they are at least 14 weeks old.

During the cold weather: Prepare the sow and farrowing pen as before. When the pigs are about a week old scald the pen again. Repeat this sterilization once every three weeks, to destroy worm eggs before they can infect the young pigs. When the pigs are from 55 to 60 days old move the sow away, leaving the young pigs in the clean pen until they are about 14 weeks old and able to resist infection.

The Value of Hot Water

If a sow harbours ten female roundworms, the dung she passes each day will contain almost one million worm eggs. The worms which form in these eggs are capable of infecting other pigs when swallowed. It takes about 25 days for these worms to form in the eggs so sterilizing at intervals of 3 weeks effectively breaks the cycle. Contact with water at 155°F for one-half second destroys the eggs, but they are not easily destroyed by cold disinfectants. If hot water cannot be had, extreme cleanliness and dryness are next best.

CONDITIONING COWS FOR CALVING

The milk production of dairy cows and heifers, particularly during the first part of the lactation period, depends to quite a large extent on having them in good thrifty condition at calving time. They need not be really fat, for the laying on of excessive fat is a costly business. They should, however, be in good flesh and on a rising rather than a receding plane of nutrition.

A cow in good condition at calving has many advantages over the cow in very thin condition. In the first place she has a better chance to withstand the hazards of calving; secondly, she will usually produce a larger, stronger calf and lastly, she will have stored up in her body a reserve of fat, minerals, and vitamins that will have a decidedly beneficial effect on her subsequent milk production. This beneficial effect will be manifested in two ways; first, in increased and prolonged milk production, due to the fact that the cow, being in good condition, uses less of her ration for maintenance and more for milk production; secondly, the good condition of the cow will have a tendency to increase the fat percentage in the milk a little for the first month or two.

A dairy cow should have a "dry" or rest period of approximately eight weeks. A cow that has been liberally fed in the previous lactation will not require so much special feeding while dry. A thin cow, however, should receive special attention. As soon as she is properly dried up, commence feeding a good roughage ration of legume hay, and silage if available. This should be supplemented by from three to eight pounds daily of a good grain mixture such as oats and barley plus a little bran and oilcake meal. Gradually reduce this ration as the cow nears calving, especially the barley portion, replacing same with more oats and bran until after calving. Access to direct sunlight in the yard during the dry period will aid in the assimilation of the nutrients, particularly the minerals consumed.

Preparation for calving in this way, together with liberal feeding after calving until pasture is available, will ensure maximum production later on pasture when production is most economical. Such maximum production will, in turn, aid in producing the increase in cheese and condensed milk required to fulfil our agreements with Great Britain this year.

CATTLE TONICS

The Chemistry Division, Science Service, Dominion Department of Agriculture, seeks to discourage the general and continued use of cattle tonics and specifics on economic and other grounds. These preparations are of little value for animals which are well and rationally fed. They cannot be expected to take the place of good feed and good feeding. Generally speaking, these preparations are sold at prices far exceeding their value—for the most part they contain cheap chemicals and cheap drugs. Animals out of health should be treated according to their specific ailment.

PLAN NOW TO GROW FEED FOR DAIRY HERD

Plan now to grow plenty of suitable feed for the dairy herd next winter, advises the Agricultural Supplies Board.

The British Ministry of Food has asked Canada to supply 112,000,000 pounds of cheddar cheese and as much additional as can be supplied in the 12 months following April 1, 1941. To do this, and meet the British request for evaporated milk and the Canadian requirements for milk, butter, and other dairy products, will necessitate an additional production of milk amounting to at least 600,000,000 pounds. This means close attention will have to be paid to efficient crop production in order to have sufficient home-grown crops, which will cut down the cost of milk production.

The Agricultural Supplies Board urges crop rotation, good seed, timely tillage, and the maintenance of soil fertility. Careful planning will provide for ensilage and roots, and coarse grains, such as oats or barley or legume hay. The use of seed free from disease and impurities and of recommended varieties is vital to efficient crop production. It pays to sow good seed. Another important factor is a good seed bed, and weed control is essential. In connection with soil fertility, manure should be conserved and used for building up fertility. Commercial fertilizers may be used to supplement manure. Hay should be cut early to improve quality and to increase aftermath. If weather conditions prevent making good hay, clover or alfalfa may be satisfactorily ensiled.

The 1941 clip of fleece wool should make a valuable contribution to Canada's war effort and it is important that each fleece be kept clean, free from straw, seeds, chaff, burrs, and tags and that it be marketed in good condition for grading and sale to Canadian mills that can use it to best advantage.

DOWN WITH THE APPLE MAGGOT

A drive is being made this year to eliminate the apple maggot (or railroad worm) from Quebec apples. It has long been known that wild apple and hawthorn trees harbour this troublesome insect, and the Spray Service of the Quebec Pomological Society, in its first card to Quebec orchardists, strongly urges all such trees to be destroyed. The minimum distance over which infestation will occur is set at 300 feet. Therefore any trees of apple or hawthorn within 300 feet of the orchard should either receive the maggot sprays in July or be destroyed. The Spray Service card points out that because of our lost export market, the grading regulations at home will probably be stricter than ever, in an effort to see that consumers get the best possible value for their money, and thereby promote sales of our national fruit.

It is suggested that this work of orchard sanitation may most effectively be done now, before the rush of spring planting, spraying and cultivating make it more difficult.

STRIPPINGS

by Gordon W. Geddes

While farmers have been disappointed in the effects of the war on their markets and the price level of their products, some of them have felt even greater regret at the apparent lack of opportunity for farmers to do anything important towards winning the fight. To begin with, they were classed as almost as important as the soldiers. Since no great need for farm goods has developed, workers in munition plants seem more useful than farmers. The lack of market for his produce and consequent low price has even made the farmer unable to take a major role in lending money for war purposes or giving it for the same uses. All his contributions have been indirect with someone else getting the credit (and the benefit, in case of loans).

* * *

At last, however, it seems as if the dairy branch of farming really has the chance to do something. More milk is needed for cheese for Britain and still more for increased quantities of dairy produce for home consumption. It must come from cows already on the farms and in the face of a shortage of help. There is no doubt of the ability of the cows to turn out the milk if they get plenty of feed. The grain feed is available in the west so the problem seems to be a matter of getting feed cheap enough for the price at which milk can be sold.

* * *

As far as Quebec is concerned, the possibility of cheaper grain from the west seems to be definitely out since our government has turned down the proposition. On the other hand it does seem inclined to put a premium on cheese as Ontario has done. This, combined with the federal bonus, should furnish the basis for a fair summer price for butter-fat in any form.

* * *

On the strength of that, it seems as if we dairy farmers should take all steps we can to provide plenty of good roughage for our cows. That is the important thing in getting more milk and getting it cheaply. Too many farmers are feeding lots of straw and still buying hay this winter for efficient dairying. We should take measures to make this unnecessary next winter. There are several ways of doing this.

* * *

One is to keep less stock; but all the cows are needed unless conditions create a demand for cows from districts where dairying has not been common. Some day, too, there will be a demand for dairy cows to replace those slaughtered in Europe so it seems wise to save good heifer calves. If we keep just as much stock we must grow more roughage. Perhaps we shall get more rain this summer. Lack of that had much to do with the shortage of hay.

* * *

Just the same we need to plan for plenty of roots or silage crops. If we can use more fertilizer or better varieties,

we may grow more that way. After we plan for this and the hay, we musn't forget the pasture. This is our cheapest feed and some fertilizer might help the best spots to be better. If we can get some haying done early, the fields may give extra pasture.

After we planned for these all acreage left should be put into grain. Here again fertilizer and variety can help. Vanguard oats look promising. Home-grown grain saves plenty of money but, if anything upsets the plans for roughage, we shouldn't hesitate to use the grain field for hay, silage, pasture or green feed. Cattle will do wonders on plenty of good roughage and we can buy all the grain prices will permit.

We aren't planning any sitdown strike and we'll do our best anyway. Still, we need to keep reminding other classes that our best will be limited by our costs and selling prices. The more favorable the relationship, the more we'll produce, and the more cash we'll have for war purposes. The choice is up to them, not us.

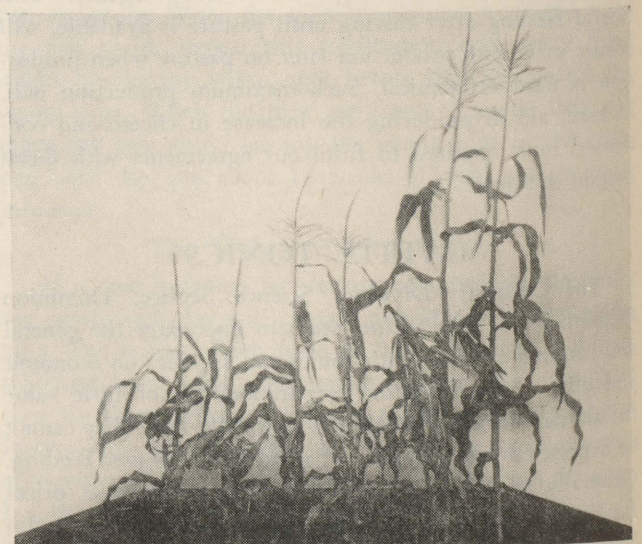
Hybrid Corn . . . (Continued from page 7)

Justification for it has been found in the end result. Open-pollinated seed is selling this year for approximately \$2.00, varietal hybrid for \$6.00, and double cross hybrid for around \$7.00 per bushel.

Hybrid seed is, however, of definitely better quality and moreover the nature of the plant is such that the rate of seeding should be relatively light. One bushel of either kind of hybrid should plant from 4 to 5 acres.

The superior qualities of any hybrid varieties are only expressed in the first year following the cross. Growers should not attempt to produce their own seed to carry on the variety. Second generation seed is distinctly inferior.

While double-cross corns are new and some time will be required to determine the adaptation of varieties to different districts, any corn grower would be well advised to give them a trial at least in a limited way.



Two inbred pairs on the left; first generation offspring on the right. Note vigor and uniformity.

THE QUESTION BOX

Have you any problems that are bothering you? This column is at your disposal. Address your questions to the Editor, Macdonald College, P.Q.

Question: What is the price of hybrid corn for ensilage? What variety would you recommend for this district?

O.M.D., Clarenceville.

Answer: Seed of varietal hybrids costs about \$5.60 per bushel, and seed of double cross hybrids about \$7.00 per bushel.

Algonquin is the only varietal hybrid listed by the Seed Board, but this is rather early for your district. We would recommend either Wisconsin No. 606 or Wisconsin No. 645, both double cross hybrids.

Question: Please give me some information about growing flax for fibre: where seed can be obtained, approximate price, harvesting, marketing. My land is mostly clay. I live in the western end of Huntingdon Country.

J.E.W.

Answer: The growing of flax for fibre in itself is not a difficult problem. It will grow on a variety of soils, but one must avoid especially rich soils, dry, sandy soils, and soils that are high in organic matter. Any soils that grow a good variety of oats or wheat are satisfactory. The crop is usually sown after pasture or after grain.

It is quite important that manure should not be applied immediately previous to the growing of flax, for this reduces the quality of fibre. Similarly, any treatment that causes too rank a growth, such as in the application of large quantities of nitrogen, is harmful.

It is important that the seed bed be well prepared, somewhat better than when it is prepared for oats or wheat. It is also important that the land be free from weeds, for these seriously injure the value of the crop. From 80 to 100 pounds of seed are sown, and it is considered that broadcast seeding is better than drill seeding.

The supply of seed for fibre flax is controlled by the Plant Products Division of the Federal Department of Agriculture, although it may be possible to obtain some from growers in flax growing sections, who have produced seed for their own use.

The problem of harvesting flax is quite different from other farm crops. Nowadays, it is pulled by machinery and laid out on the ground in a thin swathe. Following the pulling, the flax has to be retted so that the fibre can be removed.

In this part of the country retting is done by exposing it to the sun and wind for between one and two weeks depending upon the weather conditions. During this time it has to be turned over at least once, and sometimes twice, in order that all plants may be properly retted.

After the retting is done, it is put in stooks in small sheaves, and when dry, is taken to the processing plant where the seed is taken off by deseeding machinery.

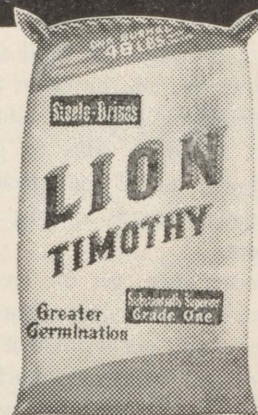
After deseeding, it is put through a breaking machine which breaks up the retted stem so that the fibre can be cleaned. After breaking, the material is put through a scutching machine to separate the other material leaving the fibre.

As you can see, there is a great deal more involved in the growing of a crop itself. It is necessary as well to have available equipment for processing. Roughly, from 150 to 250 pounds of fibre are produced per acre, the price of which varies greatly. This year good fibre was selling around 30c per pound.

We feel it is quite impossible for an individual farmer to undertake the growing of flax for fibre by himself. Unless he is fairly close to a group of farmers who are already growing flax and with equipment for pulling, deseeding, breaking, and scutching, it is unwise to undertake to grow it.

There are several cooperative societies in the Province, one of which is at de Beaujeu, Quebec — Manager, Mr. J. R. Cloutier. Another is at Ste. Martine, of which Mr. Legacy, of the Agricultural

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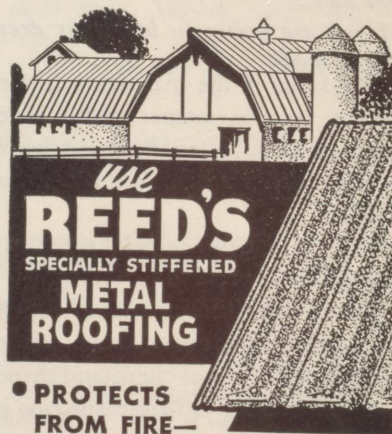
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School, is manager. Equipment is available at these places to do all the processing of flax that is necessary, and it may be possible to join up with this organization, although it strikes me that you are probably too far away to handle the situation satisfactorily. If flax growing is profitable, it is much more likely to be so for those who are located close to the central organization and processing plant, than those who are far removed.

(Continued from page 15)

Inquire if the material is sized because if it is, the sizing may be covering up a very loose weave. When washed this sizing comes out and the true weave is exposed.

If you are buying silk find out whether it is a pure silk or rayon and how much weighting has been added. Weighting is added to silks to give them more body, but if too much is added, the material tends to split and soon wears out.

If you choose linen, get the crease-resistant if possible. This does not mean that the material will not wrinkle at all, but that it will not wrinkle as much as linen which is not so treated, and when hung up the creases tend to fall out. Find out if it has been shrunk and whether the colour is fast. Look at the weave and see that it is firm and not too loose.

If you are going to buy your dresses ready made:

Find out if the material will shrink or not, because summer clothes have to be washed so often it would be very disappointing to have your new dress so ruined.

Be sure it will not fade, either in the sun or in laundering.

Know what the material of the dress is, whether silk, rayon, linen, cotton or a mixture of two of these, and then you can tell whether you are paying too high a price.

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Look carefully at the seams. If the material is of a coarse weave the seams should be finished to prevent ravelling. There should be sufficient seam allowance so that the seams will not burst open. Notice too, the size of the hem, in case the length needs to be altered.

Look for a label and see what it tells you. It might tell the fibers used in the material, the weighting, and whether it is preshrunk and colour fast. It will most likely give the name of the manufacturer. This is sometimes an indication of the quality of the dress. If you know the name is a reliable one, you will have confidence in buying that particular garment.

If the dress has buttons on it, be sure they are all there. Very often you will find one button missing.

Above all, try to choose a style and colour that is becoming to you.

Do you buy from the catalogue?

Read carefully the description about the material or dress you are planning to order. It will tell the colour, size and sometimes whether the material is washable. Notice the width of the material as this is a guide in ordering the quantity you need.

To burn one gallon of gasoline an automobile engine takes in about 9,000 gallons of air. It is the job of the air filter to remove the dust from the air that passes through the motor. Under ordinary conditions the air filter should be cleaned out and supplied with fresh oil every 2500 miles. (About two cups of oil are required). Under dusty conditions on gravel or dirt roads the filter should be serviced oftener.



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THE CANADIAN BREED

Originated and Improved in the Province of Quebec at the Service of the Canadian People

WITH THE continued success of the Canadian breed, both at exhibitions and in the Canadian Golden Book, its admirers increase in numbers daily. There is no longer any question of the place this breed holds, for it is well represented everywhere. Its winnings every year at the many regional and provincial exhibitions, and, for several years, at Toronto, clearly demonstrate that our breed of cattle has made enormous progress in the last 50 years.

Recently that most famous of all Canadian cows, "BERNIER 2C-8070" won the Gold Medal with a total production of 113,234 pounds of milk and 4,627 pounds of fat in 10 officially supervised lactations.

The total average production of all Canadian cows in the 365 day division in 1940 was 9,500 pounds of milk, 4.75% of butter-fat.

All things being equal, it can be said that, for the past 20 years, the Canadian breed has made the most progress, and that in the face of innumerable difficulties. Professor Toupin of the Institut Agricole d'Okou said in 1932, "The Canadian cow, as I saw it at Quebec, is now a definite type, both from point of view of weight and of configuration. The Canadian cow, particularly in the younger generation, is well proportioned, has style and finish. I was particularly impressed with the strength of the hereditary characteristics showing strong milking ability."

Ten years after this declaration, it is evident that these qualities of configuration and of milking ability have become fixed, and the breed is now particularly adapted to the needs of the majority of our farmers in the province of Quebec. But we do not intend to benefit only our own Province — we want to popularize this breed in the other provinces. There are already several herds in Ontario and we know that Alberta is about to acquire several head for, as Mr. Carmichael, Principal of the High School at Halkirk, Alberta, says, "We believe that this breed is especially well adapted to the conditions in this Province."

There has been a good demand for Canadian cattle since the beginning of the year, and all indications are that 1941 will be active and one of our most prosperous years.

ANDREA ST. PIERRE, *President*

C. J. M. PLAMONDON, *Secretary-Treasurer*.

MARC LECLERC, *Propagandist*.

Full information concerning the Canadian breed may be had by writing to the office of the Secretary, 63 d'Artigny St., Quebec.

The Greenwood Farm herd at Sweetburg, P.Q., comprising 28 head of pure bred Jerseys, has recently been listed by the Dominion Department of Agriculture at Ottawa as Bang's Disease free, after a period of more than a year of continuous negative blood tests.

Although there are several herds under Federal Government supervision for the control of the disease, there are only two other Jersey herds in the Province of Quebec listed as Bang's free. One is owned by W. H. Miner at Granby and the other by S. R. Fuller at Waterville. Greenwood Farm is owned by J. A. Eccles and managed by George Harvey.

Air filters on tractors should be serviced daily under average conditions and more frequently under severe dust conditions.



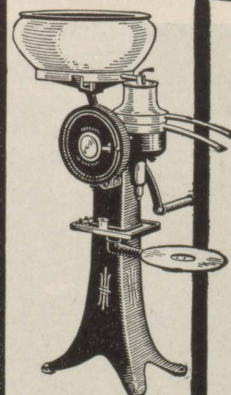
If your cream cheques aren't as large as they ought to be, don't blame your cows—and don't blame the creamery. A worn out or low-grade separator means small cream cheques.

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THE COLLEGE PAGE

News of the College — Staff, Students, Graduates

EXAMS

Examinations have been the order of the day at the College during March. The C. O. T. C. cadets wrote the infantry examination on the twenty-third, and a few of them also wrote the first paper, common to all arms, on the day before. Cadets who are successful in both examinations still have a practical examination to undergo before being qualified for a Lieutenant's certificate. To pass his practical examination the cadet must demonstrate his ability to drill a squad of men, and, either on a sand table model or on the actual ground, be able to solve tactical problems concerned both with offensive and defensive actions. It is expected that the annual C. O. C. T. camp will be held again this year; the tentative dates are June 15 to June 29.

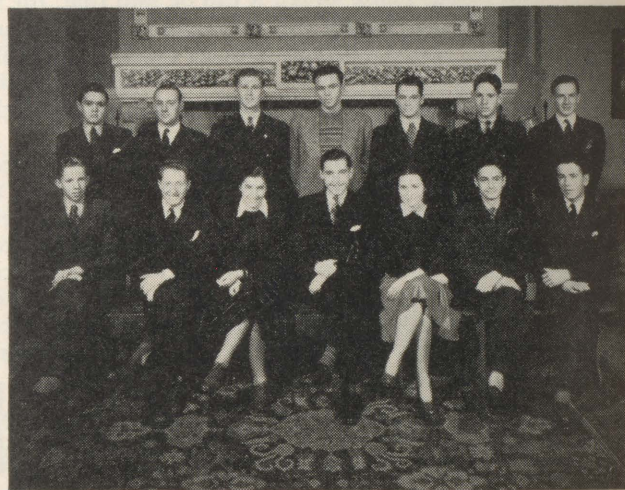
As this is being written the Diploma students are writing their final examinations. The boys in this course have had a busy year. Their programme of lectures and laboratory work is always a heavy one, and this year military training has taken a lot of extra time. Since these boys are here for only five months it was necessary for them to drill almost every day so that they could get in the minimum number of hours required. The girls in the course also had physical training and first aid work to get done as part of their war training.

However, even with the increased amount of required work, the students have found time for most of the usual extra-curricular activities. The final effort was the organizing of a highly successful tag-day and dance to raise funds for Greek relief, which brought in nearly one hundred dollars.



Diploma II.

Pictures of the two classes are printed below. There are fewer students than usual this year, for a number of reasons, but what was lacking in quantity has been made up in quality. We extend our very best wishes for success to the members of the graduating class, and hope that all the first year students will be with us again next year.



Diploma I.

COLLEGE CLOSING EARLY

University students who are 21 years old will go to camp for two weeks on April 27. Under present arrangements this, added to the training they have received during the session, will exempt them from the compulsory four-months training period. Older students are being advised to go to camp also, so that they may claim exemption when their age-classes are called.

This has made it necessary to close the College early, as far as students in agriculture are concerned. Examinations are now scheduled to begin on April 16 and will be finished on April 25th instead of May 3rd as originally planned.

ALUMNI NOTES

We met Don Adamson (B.Sc. (Agr.) '37) at the Holstein meeting last month, and got some news of some of our graduates who are in and around Ottawa. Sid Williams, '34 and Ed. Grant '34, are second lieutenants of Artillery, stationed at Petawawa. Bob Gibson, '37, is also in training at the same camp. Punch Hemsley, '33, Wm. Ferguson, '31 and Adamson himself are in a N. P. A. M. unit at Ottawa.

E. C. Bain, '38, is still in charge of seeding new airports, and now ranks as a Flying Officer with the R. A. F. He is a proud father of a baby girl.

The Farm Radio Forum

THE FARM RADIO FORUM began as an experiment. As far as we know it is the most thorough going experiment in popular education ever to be attempted in this country. We understand that it is apparently regarded as one of the most significant experiments in radio education so far undertaken by the C.B.C. Its object was to test the practicability of bringing together the rural people of the counties on a nation-wide scale to seek an answer to the question, "What is wrong with farming and how can we help to set it right?" And what has been the result of our effort? Hundreds of groups comprising many thousands of individuals all over Eastern Canada have come together to listen, to study and to discuss those problems that are important to them—problems of marketing, of price fixing, of health and of education. The programme represents a concentrated effort on the part of the farmers to understand the underlying causes of the present situation. The first step was to study out together the causes of the disabilities under which agriculture is labouring; since it is only by understanding our problems that we can hope to effect improvement. Next, possible remedies were studied and their applicability for our conditions considered. Finally, we considered the steps that must be taken, having in mind the national and international situation and the underlying economic questions involved. It was recognized that these problems are vast and complicated. But it was also recognized that if we are to play our part as citizens and as members of Canada's basic industry, we could not leave their solution to others. Throughout the series recognition was given to the truth that "the only effective help is self-help".

Macdonald College has played her part in preparing, with the aid of colleagues from near and far, the basic material on which the broadcasts are based. Mr. O. J. Shugg and Mr. Neil Morrison of C.B.C. undertook the difficult task of dramatizing the material which was presented by the Sunnyridge farmers. The Canadian Ass'n. of Adult Education printed the pamphlets. Through our Rural Adult Education Service Macdonald College undertook to organize rural Quebec and, with the help of our friends and agronomes we held a "Leader's Conference" in December. Those who attended this conference did splendid work in organizing "Radio Institutes" where large group centres were selected to follow the programme. Many of the Women's Institutes have participated in the organization with enthusiasm and efficiency. Each week we send out a "News Letter" to all our groups containing supplementary material, facts and figures and comments of various groups. The Provincial Department of Agriculture assisted with a generous money grant for organization purposes. All the other eastern provinces took up the work. In Ontario the programmes are sponsored by the

Ontario Federation of Agriculture with assistance from the Provincial Government. Under the energetic direction of Leonard Harmon the programme has been received with enthusiasm in many districts. Through arrangements with various farm organizations small grants were made to 24 field organizers in different parts of the province, who gave their services without pay. Some 10,000 were thus organized in small groups, the average membership being about 16. In the Maritime Provinces the short time available for organization did not permit of the same degree of advance preparation. But all these provinces did organize groups. In New Brunswick the work was placed under the direction of Mr. S. W. Keohan. Here contacts were established through correspondence, the district representatives, agricultural societies, Women's Institutes, etc. Literature was sent out weekly to those who undertook to assume the leadership of local groups. A similar procedure was followed in Nova Scotia. An ambitious programme was initiated in Prince Edward Island under Dr. J. T. Croteau where, in addition to the Farm Forum broadcasts an additional local broadcast was given weekly where Island problems were discussed by Island people. There have been many forum broadcasts which have filled a useful place, but this is the first occasion where a real organization has been effected to put into the hands of those concerned the means to study out for themselves the answers to their own problems. For this was not mere propaganda. No one was told what he should think or what he should do. On the contrary, the members of each group had the opportunity of thinking out together reasoned conclusions based on facts and experience. The method of having the subject introduced by a group of typical farmers reflecting the different varieties of thought and opinions prevailing in the country appeared to be more effective than the more common method of using "headliners" for this purpose. The radio undoubtedly gave a real "lift" to the group discussions, but most of our groups felt that without the study and discussion the programme would have been much less effective.

The Forum Findings which were sent in each week by the members of groups afforded a further medium for all the groups to present their own ideas and conclusions. Many of these "findings" were very much to the point, and when assembled, all the material will give to all those taking part the benefit of the combined thought of all the great company involved in this joint enterprise. When presented to official sources we trust it will prove useful as indicating the combined thoughts and experience of important cross sections of rural communities.

Careful consideration has been given to the comments of our listeners and constructive criticisms have been regularly passed on to those officials of the C.B.C. who are

responsible for the broadcasts. The first stage of this experiment may be considered to be a success. The final result depends upon the efforts of the individual and groups comprising this Farm Radio Forum. May we have the earnest and wholehearted support of all our readers!

At the time of writing the Ontario organization is planning a great rally of representatives from all the groups in that Province in Toronto on April 4. We would like to ask our Quebec member groups what they would think of having a conference of representatives from listening groups meet at Macdonald College to consider our accomplishments, our possible short-comings and to discuss plans for the future. If you like the idea would you advise us of the best date for holding such a conference?

WHAT THE FARM LISTENERS THOUGHT

A careful digest has been made of the reports from listening groups all over Eastern Canada who heard the Farm Radio Forum. This includes opinions on the various topics dealt with and statistical tabulation of information sent in, as well as suggestions for action. This report reflects the opinion of a representative group of Canadian farmers. If you want a copy you may have it free on request to the Macdonald College Journal.

New Study Kits Ready for Distribution

Some of the new series of study outlines mentioned in last month's issue of the Journal are now ready. These may be had with or without the supporting bulletins; a complete set will form a small but comprehensive reference library on the subject discussed. There is no extra charge for the kit of bulletins — the difference in price is merely the difference due to extra postage costs. The following are ready and may be ordered through the Journal:

Animal Production Series: 5 outlines, 37 pages. Price with kit, 40c; without kit, 30c.

Crop Production Series: 12 outlines, 85 pages. Price with kit, 80c; without kit, 70c.

Home Economics Series: 6 outlines, 38 pages. Price with kit, 35; without kit, 30c.

SUCCESS

"Successful is he who gets the high yields,
And who grows paying crops on each of his fields,
Who plants enough acres of any one crop
To use labor well, and make overhead drop.
Successful is he who keeps the good cows,
To use all the roughage he puts in his mows;
Who keeps his hens healthy, and all so thrifty
That each one lays a hundred and fifty.
Successful is he who knows what things cost,
Who knows where he profits, and where he has lost,
Who knows what might pay, and what never can,
For he plans his work, then works his plan."

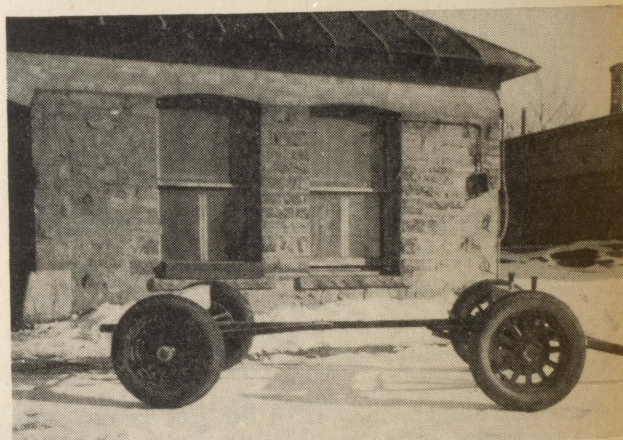
Home-Made Wagon . . .

(Continued from page 8)

to one end, and it is fitted into the bottom of the bunk from the bottom before the bunk is bolted into place.

The bolster for the wagon is $4\frac{1}{2}$ inches wide and $4\frac{3}{4}$ inches deep, is made of hardwood and cut back $1\frac{1}{2}$ inches at the end to enable it to rock when the wheels run over rough ground. The king bolt hole in the bolster should be large enough to allow the bolster to move without bending the bolt.

In mounting a box or platform on the wagon there are two important steps to follow. First—cleats on the box to keep the box from sliding off the wagon stakes should only be placed next to the stakes on the rear bolster. When the load jerks the strong rear bolster takes the jar. Second—make the box narrow enough (36-38") to allow the wagon to turn rather sharp. Although it takes a little more time to build a wagon which has a king bolt and a front axle that turns when going around a corner, you will find that this type of construction gives the best results. Wagons built with stationary axles and automobile steering cannot be turned and backed up as easily as this one.



The completed Macdonald farm wagon.

Grass Roots and Far Horizons . . .

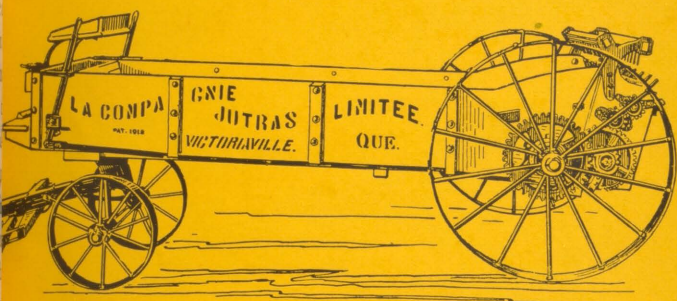
(Continued from page 4)

will they serve? If we do not fairly soon find rational and democratic methods to solve the over-all problems that have created so much trouble locally in every county in the nation, we may find ourselves headed for the kind of violent solution that the countries of Europe have been forced into by essentially the same set of problems.

The only defense of democracy is to make it work so successfully for the benefit of the mass of men that they will be willing to die rather than give it up. When it fails to provide opportunity, when it drives millions into a position that makes them feel that society has no place for them, when it worships the past too much and allows established privileges and outworn economic theories to prevent practical reform of real and immediate problems, then democracy is on the way to committing suicide.

That happened in Europe.

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... It costs less to buy and maintain.

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... Cold rolled shafting, for longer life.

... Plain gearing mechanism, for lighter draft.

... Well balanced weight, does not affect the soil.

... Spreads evenly and economically, easy loading.

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... Operates as well on plain as on uneven land.

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MACDONALD COLLEGE, QUEBEC

PLAN NOW TO GROW PLENTY OF SUITABLE FEED FOR THE DAIRY HERD NEXT WINTER!

CHECK THESE FACTORS CAREFULLY Each one is important in its effect upon **EFFICIENT CROP PRODUCTION**

PLANNED
ROTATIONS

PROPER
CULTIVATION

BARNYARD
MANURE

GOOD
SEED

BEST DATE
OF SEEDING

HAY CUT AT
PROPER STAGE



SUITABLE
CROPS

RECOMMENDED
VARIETIES

BEST RATE
OF SEEDING

COMMERCIAL
FERTILIZERS

WEED
ERADICATION

EFFICIENT
HARVESTING OF
GRAIN AND
SILAGE

FEED HOME GROWN CROPS

FARMERS can contribute this year to Canada's War Effort by increasing dairy production. Every Dairy Farmer should plan to produce the feed he will need next winter — home grown feeds cut down the cost of producing milk.

CROP ROTATION—Careful planning will provide for ensilage and roots, coarse grains such as oats or barley and legume hay.

GOOD SEED—Seed free from disease and impurities and of recommended varieties is vital to efficient crop production. *It pays to sow good seed.*

TIMELY TILLAGE—A good seed bed is important; weed control is essential; seeding should be done at the proper date, rate and depth.

MAINTAIN FERTILITY—Manure is highly perishable. Conserve and use it for building up soil fertility. Commercial fertilizers may be used to supplement manure.

HARVESTING—Cut hay early to improve quality and to increase aftermath. If weather conditions prevent making good hay, clover or alfalfa may be satisfactorily ensiled.

*For further information apply to your nearest
Agricultural College, Dominion Experimental
Station or Department of Agriculture.*

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